Ready Access Portal Help

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Refer to the QuickLIT website for the most up-to-date version of this document.

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Ready Access Portal Help Introduction

Welcome to the Release 7.0 Ready Access Portal Help.

Click one of the following task section links to get started.

Dashboard:

- *Viewing Your Dashboard*
- *Setting a View as Your Dashboard*

Alerts:

- *Viewing Alerts*
- *Filtering Alerts*
- *Acknowledging Alerts*
- *Discarding Alerts*

Summary:

- *Viewing a Summary of Items in the System*
- *Viewing Details for a Device*
- *Viewing a Graphic*
- *Opening the Trend Module*
- *Changing Item Values*

Schedules:

- *Viewing a Summary of Schedules*
- *Viewing Details for a Specific Schedule*
- *Viewing Today's Schedule*
- *Viewing Temporary Overrides*
- *Viewing Scheduled Items*
- *Adding a Temporary Override*
- *Deleting a Temporary Override*

Diagnostics:

- *Viewing a Summary of Trends*
- *Viewing Details on a Specific Trend*

Tools:

- *Working in the Tools Function Mode*

more info	Do you need general information on the Ready Access Portal user interface? Start at *Ready Access Portal User Interface Overview*. Are you looking for information on other actions not listed above? See *Performing Other Actions*. Curious about support for graphics? See *Graphic View*. Curious about support for Tailored Summaries? See *Tailored Summary View*. Having trouble? See *Ready Access Portal Troubleshooting*.

Concepts

Ready Access Portal User Interface Overview

Figure 1 shows a map of the Ready Access Portal UI and *Table 1* names the primary components of the screen. Click a link for more information on each part of the UI.

Figure 1: UI Overview

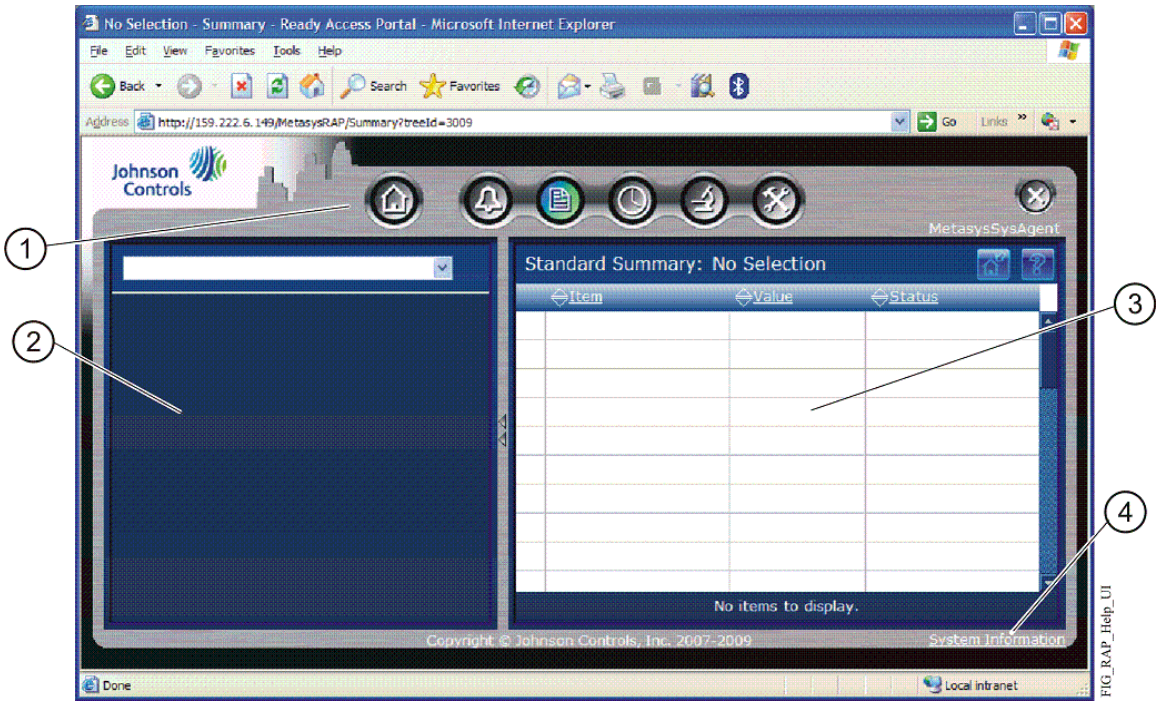


Table 1: Main Components of UI Screen

Callout	Description
1	*Function Bar*
2	*Selection Area*
3	*Workspace Area*
4	Link to *System Information Page*

Function Bar

The Function bar contains the system license status, Dashboard button, function buttons, Logout button, and name of the user currently logged in to the system.

License Status Indicator

The License Status indicator displays **UNLICENSED** if a piece of software on the Metasys® site is unlicensed. The unlicensed piece of software may be the Ready Access Portal itself or an Application and Data Server/Extended Application and Data Server (ADS/ADX) on the site. When the Ready Access Portal and all components of the Metasys site are licensed, the unlicensed message disappears.

Dashboard Button

Dashboard button (house): Opens the Dashboard or home view.

Function Buttons

Function buttons allow you to access the function modes in which you can perform tasks. Your access privileges determine which buttons you see and, thus, which function modes you can access. The function button for the active function mode is highlighted in color.

Note: The function buttons do not appear for Tenant users.

Tip: If you place your cursor over a function button, the name of the function mode appears.

The function buttons are the following (left to right):

Alerts function button (bell): Opens the Alerts function mode that allows you to perform tasks related to alerts such as acknowledging and discarding alerts. The Alerts function button flashes if unacknowledged alarms exist in the Site Management Portal UI.

Summary function button (piece of paper): Opens the Summary function mode that allows you to perform tasks related to summaries such as changing item values.

Schedules function button (clock): Opens the Schedules function mode that allows you to perform tasks related to schedules such as adding temporary overrides.

Diagnostics function button (microscope): Opens the Diagnostics function mode that allows you to monitor system performance.

Tools button (hammer and wrench): Opens the Tools function mode that allows Metasys system Administrators to update the Ready Access Portal with changes made to the Metasys site. Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for information on considerations and tasks for Metasys system Administrators.

Logout Button

The Logout button allows you to log out of the Ready Access Portal UI and return to the logon screen. When you are finished, be sure to log out of the UI to make sure your Metasys site remains secure.

Note: Simply closing your browser window or tab does not necessarily log you out of the Ready Access Portal UI if you have other browser windows or tabs open.

Note: Clicking the Back button does not log you out of the Ready Access Portal UI.

See *Logging Out*.

Name of Current User

The name of the user currently logged on to the system appears on the Function bar just under the Logout button.

Selection Area

The Selection area contains the following:

- A **drop-down** list box that contains all user views present in the Site Director that have been assigned to you (currently logged on user).
- A **selection tree** that represents the folder structure of the user view you select in the drop-down list box. The folder you select in the selection tree sets the context for what appears in the Workspace area.

Note: **All** user views visible in the Ready Access Portal UI are the same user views present in the Site Director. (User Views are assigned per user; therefore, the user view visible in the Ready Access Portal UI is the same user view present in the Site Director for each specific user.)

The Selection area appears in the Alerts, Summary, Schedules, and Diagnostics function modes. The Selection area also allows you to select graphics and folders that are present in the user view.

Note: The Selection area does not appear in the Tools function mode or in the Dashboard.

The twin arrows on the side of the Selection area allow you to expand or collapse the Selection area and increase or decrease the area available for the Workspace area.

Workspace Area

The Workspace area contains different views depending on the function mode you select, the task you are performing, and the item you select in the Selection area (if present).

The Workspace area has the following sections:

- title bar
- view

Workspace Title Bar

The Workspace title bar contains the name of the view and the context of the view; for example, the name of the folder you select in the selection tree or the name of a graphic.

The Workspace title bar also may contain the buttons in *Table 2*.

Table 2: Workspace Title Bar Buttons

Button[1]	Description
Set as Dashboard 	**House and Arrow** Sets the currently displayed view as the Dashboard. The Dashboard appears when you: • click the Dashboard button • log in to the system (the default view) For Metasys system Standard Access administrators, this button allows you set the Dashboard for yourself or other system users. This button does not appear for Tenant users.
Help 	**Question Mark** Displays this Help system in a separate window or tab, depending on your browser settings.
Filter **or** 	**Building and Folder** Appears in the Alert Summary view only. This button allows you to change the context of the alerts visible in the Alert Summary view. When you click this button, the context of the Alert Summary view toggles between the entire site (unfiltered) and the entire contents of the folder currently selected (filtered). The Filter button appears as a building icon when the view is unfiltered and as a folder icon when the view is filtered. If you do not select a folder in the selection tree, the Filter button is disabled.

1 The Refresh and Back buttons no longer appear in the Workspace title bar. Use the web browser buttons instead. See *Web Browser Interaction*.

Workspace View

Each function mode supports one or more Workspace views. For more information on the views available in each function mode, see *Function Mode List*.

For more information on tasks you can perform in the Workspace views, see *Task List*.

Ready Access Portal System Information Page

The System Information link appears at the bottom-right corner of the Ready Access Portal UI screen. When you click this link, the following system information appears in a new browser window:

- Ready Access Portal software version
- Metasys Graphics Package software version (that is, the version of the Metasys Graphics Package currently installed on the Ready Access Portal Server)
- system color key for statuses
- system color key for alert levels (priority range)
- copyright information

The system color keys reflect the color assignments defined by Metasys system preferences. Status colors are used in the Standard Summary view, Tailored Summary view, and Graphic view to indicate the status of an item (for example, alarm, overridden, or offline).

Alert level colors are used in the Alert Summary view to indicate the priority level of an alert. A priority level encompasses a particular set of alert priorities and reflects the relative severity or importance of the alert. Alert priorities range from 1 (highest priority/importance) to 255 (lowest severity/importance).

For information on the system alert and status colors defined, refer to the *Preferences* section of the *Metasys® SMP Help (LIT-1201793)*.

Function Mode List

The *Dashboard* displays a view from one of the function modes.

The following function modes allow you to perform specific tasks in the Ready Access Portal UI:

- *Alerts Function Mode*
- *Summary Function Mode*
- *Schedules Function Mode*
- *Diagnostics Function Mode*
- *Tools Function Mode*

Web Browser Interaction

The Ready Access Portal UI uses select web browser features in the following ways:

- **Text Size**: The Ready Access Portal UI responds to changes you make for the web browser text size.
- **Favorites**: You can bookmark the Ready Access Portal UI, the login address, and specific views within the UI.
- **Full Screen**: The F11 key allows you to view the Ready Access Portal UI without the web browser framework (Full Screen view). We recommend you view the Ready Access Portal UI in Full Screen view to maximize room available for Ready Access Portal UI content.

Keep in mind that if you use Full Screen view, you do not have access to the web browser Back, Forward, Refresh, and other buttons. As an alternative, you can use key strokes or the mouse right-click menu to navigate.

Navigation/Menus: When you are logged in to the Ready Access Portal UI, use care when using Windows® Internet Explorer® web browser buttons and menus.

Back (or Backspace key): Returns you to the previous address. If you navigate from the Ready Access Portal UI to another address while you are logged in, you can click the Back button to return to the UI. Navigating to another address does not log you out of the Ready Access Portal UI. If you use the Back button to log in multiple users, devices in your Metasys system may reset.

Forward: Allows you to move forward in the browsing history. If you use the Back button, you can use the Forward button to return to the next address that you accessed.

Refresh: Refreshes the values that appear in the current view.

The Ready Access Portal UI refreshes automatically every 5 to 15 seconds. If a problem exists with the automatic refresh, an orange triangle with an exclamation point appears next to the Logout button. For more information, see *Ready Access Portal Troubleshooting*.

Home: If you click Home, your designated Home page appears. You are not logged out of the Ready Access Portal UI.

Favorites: You can bookmark the address for the Ready Access Portal UI, the login address, and specific views within the UI. If you are not logged in, and you click a Ready Access Portal UI bookmark, the login screen appears.

New Windows: If you want to run more than one Ready Access Portal UI window, open a new window from the Start menu or double-click the Internet Explorer web browser icon. Do **not** create a window using the File > New Window selection, File > New > Tab selection, or the Ctrl-N shortcut.

Timeout

The Ready Access Portal UI supports the Never Terminate setting of a user profile in the Site Management Portal UI Security Administrator System. If a user is configured to never time out, and the user logs on to the Ready Access Portal UI, the user is never logged off due to inactivity.

Note: The handheld Ready Access Portal UI does not support this functionality.

Note: Users that are configured to never time out still are logged off from the system if the Metasys system Administrator initiates an update or if the computer running the Ready Access Portal software restarts.

Dashboard

Dashboard Overview

The Dashboard is your home view and appears when you click the Dashboard button (if present) and appears as the default when you first log on. The view set as your Dashboard can be the following views from the *Alerts*, *Summary*, *Schedules*, or *Diagnostics* function modes:

- *Alarm Summary* view
- *Standard Summary* view
- *Device Summary* view
- *Tailored Summary* view
- *Graphic* view
- *Schedule Summary* view
- *Schedule Details* view
- *Trend Summary* view
- *Trend Details* view

If you are a Tenant user, you can access only the view that appears as the Dashboard and any views you can access via a link in the Dashboard.

Dashboard Tasks

The following task section applies to the Dashboard:

Setting a View as Your Dashboard

Note: Tenant users cannot set a view as their Dashboard. Tenant users should contact the Metasys system Standard Access Administrator to set a view as their Dashboard.

Note: See the *Task List* section for tasks associated with views that can be set as the Dashboard.

Dashboard Content

The Dashboard displays the view you (or your Metasys system Standard Access Administrator) set using the Set as Dashboard button.

Until you set which view appears as the Dashboard, a message appears indicating that your dashboard is not defined. If this happens, Tenant users should contact their Metasys system Standard Access Administrator to have their Dashboard set.

Tip: The Dashboard function mode does not have a Selection area.

Consider the following behavior when you click the Set as Dashboard button:

- The specific view in place when you click the Set as Dashboard button is the view that appears as the Dashboard.

Example

- If a Device Summary view is visible when you click the Set as Dashboard button, the Device Summary is the view that appears as the Dashboard (as opposed to the Standard Summary view, which is the default view for the Summary function mode).
- If a view set as the Dashboard has links or navigation, these links and navigation continue working in the Dashboard, but the view set as the Dashboard does not change.

Example

- If you have a Standard Summary view as your Dashboard, and you click a device link, the Device Summary view for that device appears in the Dashboard. The next time you click the Dashboard button, the Standard Summary view appears.
- If you sort the view information before you click the Set as Dashboard button, the view that appears as the Dashboard retains the sort.
- If you are viewing the Dashboard, and navigate to another view through your Dashboard, you can click the Set as Dashboard button in the new view. The Dashboard updates to display the new view. Tenant users do not have this capability.

Alerts Function Mode

Alerts Function Mode Overview

The Alerts function mode allows you to detect and manage alerts for your system. If you have the required privileges, you can acknowledge and discard alerts.

What is an alert?

An alert is a system alarm/event that the currently logged on user has the access privileges to acknowledge.

The Alerts function mode contains the following view:

- *Alert Summary* view

Alert Summary View

The Alert Summary view is the only view available for the Alerts function mode. The Alert Summary view displays the top 100 (newest, highest priority) pending alerts that you have the access privileges to acknowledge. By default, alerts are limited to the previous 5 days and appear in the context of the entire site (unfiltered).

You also can filter the Alert Summary view by selecting a folder in the selection tree and clicking the Filter button (see *Workspace Title Bar* buttons). When filtered, the Alert Summary view displays the top 100 pending alerts for the items contained in the folder you selected in the selection tree. If you click a new folder in the selection tree while the Alert Summary view is filtered, the view displays alerts in the context of the new folder. If you click the Filter button to remove the filter, the view once again displays alerts in the context of the entire site and the folder selected in the selection tree does not impact the view. Items displayed in the Ready Access Portal UI use color to indicate the state of alerts and overrides. See *Ready Access Portal System Information Page* for details.

The user view folders are used to filter the Alert Summary function based on a parent/child relationship. For example, a site with five NAEs may have a user view that contains each NAE device without any other points or devices added under each NAE. When you select one of the individual NAEs as the filter from the user view, any child devices or points of that NAE are the points shown in the Alert Summary view.

Alert Summary View Tasks
The following task sections apply to the Alert Summary view:

- *Viewing Alerts*
- *Filtering Alerts*
- *Acknowledging Alerts*
- *Discarding Alerts*

Alert Summary View Content
The *Workspace title bar* displays the name of the Site Director as the context of the view.

See *Alert Summary View Content* for details on the Alert Summary view.

Table 3: Alert Summary View Content

Column	Details
Icon	Displays a blue star ( ) if the alert is new as defined by the Site Management Portal UI preferences. By default, this value is new alerts from the past 15 minutes. For information on changing the interval to another value from 5 to 60 minutes, refer to the *Metasys® SMP Help (LIT-1201793)*. **Note:** This column does not have a name. Look for the column on the left with pictures.
Type	Displays the alert type; for example, High Alarm, Low Alarm, Normal.
Priority	Shows the alert priority. The background color of each alert corresponds to the priority value of the alert as defined by Metasys system preferences.
Time	Lists the date and time the system issued the alert.
Item	Displays the name of the object (from the Name attribute) that generated the alert. When an item resides in a field device, and the user is authorized to view details for the field device, an icon appears ( ) linking you to the Device Summary view for the device.
Value	Lists the value of the attribute causing the alert.
Message	Displays any message text associated with the alert.
Acknowledge ✓	Allows you to acknowledge the alert and remove it from the list of alerts. When you acknowledge an alert here, you also acknowledge the alert according to the Site Management Portal UI. **Note:** This column does not have a name. Look for the column second from the right with check marks.
Discard	Allows you to discard the alert. When you discard an alert here, you also acknowledge and discard the alert according to the Site Management Portal UI. This means that the alert disappears from the Site Management Portal UI but not the alarm database. You can discard alerts only if you have the appropriate privileges. **Note:** This column does not have a name. Look for the column on the right with garbage can icons.

Summary Function Mode

Summary Function Mode Overview
The Summary function mode provides summary information and graphics that allow you to monitor and manage the site.

The Summary function mode contains the following views:

- *Standard Summary* view
- *Device Summary* view
- *Tailored Summary* view
- *Graphic* view

Standard Summary View

The Standard Summary view contains information on objects directly inside the folder you select in the selection tree. If you click a link in the Value column and you have the appropriate privileges, you can change the value of the object. Items displayed in the Ready Access Portal UI use color to indicate the state of alerts and overrides. See *Ready Access Portal System Information Page* for details.

Standard Summary View Tasks

The following task sections apply to the Standard Summary view:

- *Viewing Details for a Device*
- *Changing Item Values*

Standard Summary View Content

The *Workspace title bar* displays the name of the folder you select in the selection tree as the context of the view.

See *Table 4* for details on the Standard Summary view.

Table 4: Standard Summary View Content

Column	Details
Icon	Shows a picture corresponding to the type of item. The icons match icons used in the Site Management Portal UI. **Note:** This column does not have a name. Look for the column on the left with pictures.
Item	Displays the name of the item. If you are authorized, the name may be a link to the *Device Summary* view for the item.
Value	Lists the value of the item. If you are authorized, the value may be a link that allows you to change the value. See *Changing Item Values*. The background color of this cell corresponds to the status of the item as defined by Metasys system preferences.
Status	Lists the status of the item. If the status is normal, this column is blank.

Device Summary View

The Device Summary view contains information on all field points that belong to the field device that you selected in the *Standard Summary* view. If you click a link in the Value column and you have the appropriate privileges, you can change the value of the field point item.

Device Summary View Tasks

The following task section applies to the Device Summary view:

- *Changing Item Values*

Device Summary View Content

The Workspace title bar displays the name of the device you selected in the *Standard Summary* view as the context of the view.

See *Table 5* for details on the Device Summary view.

Table 5: Device Summary View Content

Column	Details
Icon	Shows a picture corresponding to the type of item. The icons match icons used in the Site Management Portal UI. **Note:** This column does not have a name. Look for the column on the left with pictures.
Item	Displays the name of the item.
Value	Lists the value of the item. If you are authorized, the value may be a link that allows you to change the value. See *Changing Item Values*. The background color of this cell corresponds to the status of the item as defined by Metasys system preferences.
Status	Lists the status of the item. If the status is normal, this column is blank.
Path	Displays the folder in which the item resides under the device. If the item does not reside in a folder within the device (that is, it simply resides directly under the device), this cell is blank.

Tailored Summary View

The Ready Access Portal UI Summary function mode supports Tailored Summaries. When you view a folder in the selection tree that has Tailored Summaries associated with it, the default view (either a Tailored Summary view or the Standard Summary view) appears in the Workspace. The Workspace title bar shows the name of the Tailored Summary or Standard Summary, followed by the name of the folder selected in the selection tree. If you click the right-facing arrow to the left of the Tailored Summary or Standard Summary name, you can select between viewing the available Tailored Summaries or viewing the Standard Summary. See *Standard Summary View*.

When you display a Tailored Summary, the columns and key data appear. You cannot rearrange the columns, but you can sort them by clicking a column title. Any graphics linked to the Tailored Summary are available in the Ready Access Portal UI, subject to requirements in the *Graphic View* section. If you click a link to a device in the Tailored Summary view, the Device Summary view for that device appears. See *Device Summary View*. You also can change the value of an item by clicking a value link. Tailored Summaries use the same color preferences for alerts and overrides as those used in the Site Management Portal UI. See *Ready Access Portal System Information Page* for details.

For information on Tailored Summaries, refer to the *Metasys® SMP Help (LIT-1201793)*.

Tailored Summary View Tasks

The following task sections apply to the Tailored Summary view:

- *Viewing a Summary of Items in the System*
- *Viewing Details for a Device*
- *Viewing a Graphic*

- *Changing Item Values*
- *Adding a Temporary Override*

Graphic View

Graphics appear in the user view tree as stand-alone items with a graphic symbol next to them (for User Graphics Tool [UGT] graphics, and for Graphics Plus graphics) and in Tailored Summaries using the same symbols. See *Tailored Summary View* for details on Tailored Summaries in the Ready Access Portal UI. The Workspace title bar shows the word Graphics and then the name of the graphic, separated by a colon.

Graphics displayed in the Ready Access Portal UI use color to indicate the state of alerts and overrides. See *Ready Access Portal System Information Page* for details. If you add new graphics in the Site Management Portal UI, you must perform a synch. You can change point values using graphics in the Ready Access Portal UI.

You also can add temporary overrides from a graphic when the symbol in the graphic is bound to a schedule.

And lastly, you can view trend information for an object from a Graphics+ graphic if trend data exists for the object. For details, see *Opening the Trend Module*.

Keep the following in mind when using graphics in the Ready Access Portal UI:

- You can display graphics while in the Summary function mode only.
- You must have Microsoft® Silverlight™ plug-in to view graphics. If you do not have the Silverlight plug-in installed, you are prompted to do so the first time you view a graphic. For additional installation instructions, refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523).*

The Display Control tool allows you to zoom and pan a graphic displayed in the Ready Access Portal UI. See *Figure 2* and *Table 6* for details on the Display Control tool.

Figure 2: Display Control Tool

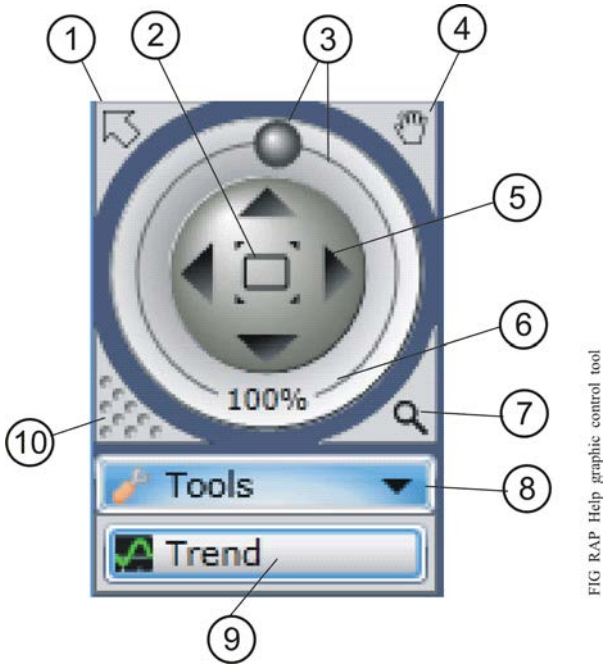


Table 6: Components of Display Control Tool

Callout	Name	Description
1	Collapse	Hides the Display Control tool. After you hide the tool, a faint arrow appears that allows you to restore the tool.
2	Fit to Window (center block)	Zooms the graphic to fit in the frame.
3	Zoom Ball with Zoom Ring	Allows you to zoom by moving the ball clockwise (zoom in) and counterclockwise (zoom out) along the zoom ring.
4	Turn On/Off Panning	Enables and disables the panning tool that allows you to move the graphic in the workspace.
5	Move (four arrows)	Allows you to pan up, down, left, and right over the graphic in set increments.
6	Current Zoom Level	Displays the current zoom level.
7	Turn On/Off Zoom Mode	Enables and disables the manual zoom (magnifying glass) that allows you to re-center the graphic and zoom in an out.
8	Tools Menu	Drops down a list of Tools. At this time, only the Trend Module is available.
9	Trend	Opens and closes the Trend Module. This option appears when you click the Tools down arrow. See *Opening the Trend Module*.
10	Move Display Control	Allows you to move the Display Control tool to a different area of the graphic.

Graphic View Tasks

The following task sections apply to the Graphic view:

- *Viewing a Graphic*
- *Opening the Trend Module*
- *Changing Item Values*
- *Adding a Temporary Override*

Schedules Function Mode

Schedules Function Mode Overview

The Schedules function mode allows you to see schedule information for the site.

The Schedules function mode contains the following views:

- *Schedule Summary* view
- *Schedule Details* view

Schedule Summary View

The Schedule Summary view contains a list of the schedules present in the folder you select in the selection tree and any nested folders under that folder. If you click a link in the Value column and you have the appropriate privileges, you can add a temporary override.

What is a temporary override?

A temporary override is a short term change you make to the output value of a schedule.

Schedule Summary View Tasks
The following task sections apply to the Schedule Summary view:

- *Viewing Details for a Specific Schedule*
- *Adding a Temporary Override*

Schedule Summary View Content
The Workspace title bar displays the name of the folder you selected in the selection tree as the context of the view.

See *Table 7* for details on the Schedule Summary view.

Table 7: Schedule Summary View Content

Column	Details
Icon	Shows a picture corresponding to a schedule. **Note:** This column does not have a name. Look for the column on the left with pictures.
Item	Displays the name of the Schedule object. If you are authorized, a link appears to the *Schedule Details* view for the object.
Value	Contains the output value of the schedule. If you are authorized and the schedule supports temporary overrides, the value may be a link that allows you to temporarily override the schedule. See *Adding a Temporary Override*. The background color of this cell corresponds to the status of the item as defined by Metasys system preferences.
Status	Lists the status of the item. If the status is normal, this column is blank.
Path	Displays the folder in which the schedule resides within the folder you select in the selection tree. If the schedule does not reside in a folder (that is, it simply resides directly under the folder you selected in the selection tree), this cell is blank.

Schedule Details View
The Schedule Details view contains details on the schedule you selected in the *Schedule Summary* view.

The Schedule Details view contains the following tabs:

- *Today's Schedule* tab
- *Temporary Overrides* tab
- *Scheduled Items List* tab

Schedule Details View Tasks
The following tasks apply to the Schedule Details view:

- *Adding a Temporary Override*
- *Deleting a Temporary Override*

Schedule Details View Content
The Workspace title bar displays the name of the item you selected in the Schedule Summary view as the context of the view.

Under the Workspace title bar, the Schedule Details view lists the current day, the schedule's current output value, and the schedule's status.

Times in the Schedules function mode display in 24-hour time format. For example:

- 00:00 is the start of the day
- 24:00 is the end of the day
- 12:00 is noon

Note: See *Ready Access Portal Troubleshooting* if you would like to change the time format to 12-hour time.

Note: For Release 6.0 or later, the display of Alerts, Schedules, and Trend Details includes the time zone.

Today's Schedule Tab

The Today's Schedule tab contains changes to the schedule for the current day, ending at 24:00.

Example

For example, if the schedule changes to **On** at 08:32 and **Off** at 13:54, only those entries exist in the Today's Schedule tab.

Note: If the schedule does not implement the Today's Schedule feature, text indicating this lack of functionality appears at the bottom of the Today's Schedule tab.

See *Table 8* for details on the Today's Schedule tab.

Table 8: Today's Schedule Tab Content

Column	Description
Time	Displays the local time for the scheduled event in **hours:minutes** using 24-hour format. This time applies to the current day only. **Note:** For Release 6.0 or later, the display of Alerts, Schedules, and Trend Details includes the time zone.
Value	Lists the projected output value of the schedule.

Temporary Overrides Tab

The Temporary Overrides tab contains a list of temporary overrides currently defined for the schedule you selected. If you click the Add Temporary Override link, and you have the appropriate privileges, you can add a temporary override.

Note: If the schedule does not support the temporary override feature, text indicating that lack of functionality appears at the bottom of the Temporary Overrides tab.

See *Table 9* for details on the Temporary Overrides tab.

Table 9: Temporary Overrides Tab Content

Link/Column	Description
Add Temporary Override	If you are authorized, this link allows you to create a new temporary override for the schedule you are viewing. Temporary overrides apply to the current day, up to 24:00. See *Adding a Temporary Override*.
Starts On	Shows the date for the start of the override.
Ends On	Shows the date for the end of the override.
Daily Start	Shows the hour and minute of the day for the start of the override. This time is in terms of the days in the Starts On and Ends On fields. For the start of the day, select 00 for the Hour and 00 for the Minute.

Table 9: Temporary Overrides Tab Content

Link/Column	Description
Daily End	Shows the hour and minute of the day for the end of the override. This time is in terms of the days in the Starts On and Ends On fields. For the end of the day, select 24 for the Hour and 00 for the Minute.
Value	Lists the output value of the schedule during the override.
Delete Temporary Override	Allows you to delete the temporary override. **Note:** This column does not have a name. Look for the column on the right with garbage can icons.

Scheduled Items List Tab

The Scheduled Items List tab contains a list of objects controlled by the schedule you selected.

See *Table 10* for details on the Scheduled Items List tab.

Table 10: Scheduled Items List Tab Content

Column	Description
Icon	Shows an icon indicating the item type. **Note:** This column does not have a name. Look for the column on the left with pictures.
Item	Displays the name of the scheduled item.
Attribute	Displays the name of the scheduled attribute.
Value	Lists the value of the scheduled item's scheduled attribute. The background color of this cell corresponds to the status of the scheduled item. For assistance on the meaning of the color, contact your Metasys system Administrator.
Status	Lists the status of the scheduled item. If the status is normal, this column is blank.
Priority	Shows the priority controlling the value of the scheduled item's attribute.

Diagnostics Function Mode

Diagnostics Function Mode Overview

The Diagnostics function mode allows you to view trend information to monitor and evaluate the performance of the Metasys system.

The Diagnostics function mode contains the following views:

- *Trend Summary* view
- *Trend Details* view

Trend Summary View

The Trend Summary view contains a list of trends (extensions) for the items in the folder you select in the selection tree and all items in folders nested under the folder you select.

Trend Summary View Tasks

The following task section applies to the Trend Summary view:

- *Viewing Details on a Specific Trend*

Trend Summary View Content

The Workspace title bar displays the name of the folder you select in the selection tree as the context of the view.

See *Table 11* for details on the Trend Summary view.

Table 11: Trend Summary View Content

Column	Details
Icon	Shows a picture corresponding to the type of object that has a trended attribute. The icons match the icons used in the Site Management Portal UI. **Note:** This column does not have a name. Look for the column on the left with pictures.
Item	Displays the name of the trended item.
Status	Lists the status of the trended item. If the status is normal, this column is blank.
Trend	Lists the name of the Trend extension. If you are authorized, a link appears to the Trend Details view for the Trend extension.
Trend Status	Lists the status of the Trend extension. If the status is normal, this column is blank.
Path	If the folder you select in the selection tree (Folder A) contains another folder (Folder B) with a trended item inside it, this column displays the name of the trended item's folder (Folder B). If the trended item does not reside in a folder (that is, it simply resides directly under the item you select in the selection tree), this cell is blank.

Trend Details View

The Trend Details view contains a table of data samples for the specific trend extension you selected in the *Trend Summary* view.

Trend Details View Tasks

No tasks apply to the Trend Details view at this release.

Trend Details View Content

The Workspace title bar displays the name of the item you selected in the *Trend Summary* view as the context of the view.

The **Format button** allows you to toggle the Trend Details view between table and chart format. This button appears as a chart icon ( ) when you are in table view and as a table icon ( ) when you are in chart view (default view format).

The **Time Frame (Hours)** links allow you to change the time frame (in hours) for viewing the trend's data samples. Options are 1, 12, 24, 48, and 72 hours. The default time frame is 12 hours.

The chart format of the Trend Details view shows a line chart tracing the value of the trend extension you selected in the Trend Summary view. If you place your cursor over a point on the line, the value of the trended data sample appears in a tool tip window.

The tabular format of the Trend Details view shows the value of the trend extension over time using a table with one sortable column. See *Table 12* for details on the Trend Details view (tabular format).

Table 12: Trend Details View Content (Tabular Format)

Column	Details
Time	Displays the date and time that the trend collected the data sample. This column is sortable.
Value	Displays the data sample value.

Tools Function Mode

Tools Function Mode Overview

The Tools function mode is accessible only by users with Metasys system Administrator access rights.

The Tools function mode contains the following view:

- *System Administration* view

System Administration View

The System Administration view allows Metasys system Administrators to update the Ready Access Portal UI content after making the following changes to the Metasys site:

- Add, remove, or modify user views.
- Add or remove trends extensions.
- Add or remove field points.
- Change bindings in User Graphics Tool [UGT] graphics.
- Discover BACnet third-party devices or objects whose states text does not match an existing Johnson Controls® standard set, resulting in the creation of a new user-defined enumeration set.

These changes do not appear in the Ready Access Portal UI until a Metasys system Administrator performs an update. If you make any of these changes on an engine, issue an Archive command for the Engine object before you update the Ready Access Portal UI.

When a Metasys system Administrator clicks the Update button, the Ready Access Portal logs him/her out of the system immediately. All other users return to the log on page with their next click. You must log back on when the update is complete.

System Administration View Tasks

Working in the Tools Function Mode

Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for information on considerations and tasks for Metasys system Standard Access Administrators.

System Administration View Content

Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for information on considerations and content for Metasys system Standard Access Administrators.

Task List

Click one of the following task sections for details:

Dashboard:

- *Viewing Your Dashboard*
- *Setting a View as Your Dashboard*

Alerts:

- *Viewing Alerts*
- *Filtering Alerts*
- *Acknowledging Alerts*
- *Discarding Alerts*

Summary:

- *Viewing a Summary of Items in the System*
- *Viewing Details for a Device*
- *Viewing a Graphic*
- *Changing Item Values*

Schedules:

- *Viewing a Summary of Schedules*
- *Viewing Details for a Specific Schedule*
- *Viewing Today's Schedule*
- *Viewing Temporary Overrides*
- *Viewing Scheduled Items*
- *Adding a Temporary Override*
- *Deleting a Temporary Override*

Diagnostics:

- *Viewing a Summary of Trends*
- *Viewing Details on a Specific Trend*

Tools:

- *Working in the Tools Function Mode*

Other actions you can take:

- *Sorting View Columns*
- *Paging through a View*
- *Printing*
- *Printing Content from the Ready Access Portal UI*
- *Printing the Help*
- *Viewing System Information*
- *Logging Out*

For general Ready Access Portal UI information, see the *Ready Access Portal User Interface Overview* section.

Working with Your Dashboard

This section contains the following task sections related to the Dashboard:

- *Viewing Your Dashboard*
- *Setting a View as Your Dashboard*

Viewing Your Dashboard
To view your Dashboard, click the Dashboard button in the Function bar.

Setting a View as Your Dashboard
This task does not apply to Tenant users. A Metasys system Standard Access Administrator must set the Dashboard for a Tenant user.

When a view is set as your Dashboard, the view appears as the default view when you log on and when you click the Dashboard function button (if present). If you have a view defined as the Dashboard already, this procedure allows you to update the view with a new sort order or other changes.

To set a view as your Dashboard:

1. Select a function mode button in the Function bar.
2. Open the view you would like as your Dashboard.
3. Click the Set as Dashboard button ( ).

   Note: For Metasys system Standard Access administrators, this button allows you to set the Dashboard for yourself or other system users. This button does not appear for Tenant users.

Working in the Alerts Function Mode
This section contains the following task sections related to the Alerts function mode:

- *Viewing Alerts*
- *Filtering Alerts*
- *Acknowledging Alerts*
- *Discarding Alerts*

Viewing Alerts
To view alerts, click the *Alerts* function mode button in the *Function bar*.

Filtering Alerts
To filter alerts:

1. Click the *Alerts* function mode button in the *Function bar*.
2. Select a folder in the selection tree.

   Note: If you do not select a folder in the selection tree, the filter button is disabled.
3. In the Workspace title bar, click the Filter button so that it appears as a folder ( ). See *Table 2* for details on the Filter button.

   The view updates to display the top 100 alerts for the all items contained in the folder you selected in Step 2. This filter includes items directly under the folder and any child items.
4. To remove the filter, click the Filter button until it appears as a building ( ).

   The view updates to display the top 100 alerts for the entire site.

Acknowledging Alerts
To acknowledge alerts:

1. Click the *Alerts* function mode button in the *Function bar*.
2. Find the row for the alert you would like to acknowledge.

3. Click the check mark icon for that row (✓).
4. The view updates to remove the acknowledged alert.

Discarding Alerts

To discard alerts:

1. Click the *Alerts* function mode button in the *Function bar*.
2. Find the row for the alert you would like to discard.
3. Click the garbage can icon for that row (🗑).
4. The view updates to remove the discarded alert.

Working in the Summary Function Mode

See the following task sections related to the Summary function mode:

- *Viewing a Summary of Items in the System*
- *Viewing Details for a Device*
- *Viewing a Graphic*
- *Changing Item Values*

Viewing a Summary of Items in the System

To view a summary of items in the system:

1. Click the *Summary function mode* button in the Function bar.
2. Select a user navigation tree from the *Selection* area drop-down list box.
3. In the selection tree, browse to the folder you want to view. The *Standard Summary* view or *Tailored Summary* view appears in the Workspace area.

   Note: If you click the right-facing arrow to the left of the Tailored Summary or Standard Summary name in the Workspace title bar, you can select between viewing the available Tailored Summaries or viewing the Standard Summary.

Viewing Details for a Device

To view details for a device:

1. Follow the steps in *Viewing a Summary of Items in the System* to display the Standard Summary view.
2. In the Item column of the *Standard Summary* view, click a link for the device you would like to view. If you are viewing a *Tailored Summary*, click a link in a row or in the key data. The *Device Summary* view appears.

Viewing a Graphic

To view a graphic, click a graphic item in the *Selection* area or click the graphic icon for an item in the *Standard Summary* view or *Tailored Summary* view. The Graphic view appears.

Use the Display Control tool to zoom and pan the graphic. See the *Graphic* view for information on this tool.

For information on how to view trend information for an object that appears on a Graphics+ graphic, see *Opening the Trend Module*.

Changing Item Values

Note: You must have the appropriate privileges to change item values.

To change item values from a summary:

1. In the *Summary* function mode, do one of the following:
   - In the *Standard Summary* view, click a link in the Value column; this allows you to change the value of the item you clicked.
   - In the *Device Summary* view, click a link in the Value column; this allows you to change the value of the item you clicked.
   - In the *Tailored Summary* view, click a link in a column; this allows you to change the value of the item you clicked.
   - In the *Graphic* view, click a selectable item; this allows you to change the value of the item you clicked.

   The Change Value dialog box appears and allows you to change the current value of an item. *Table 13* describes the content of the dialog box.
2. Use *Table 13* to complete the Change Value dialog box.

Table 13: Change Value Dialog Box

Item	Description
Instructions Text	Contains instructions for using the Change Value dialog box. The instructions appear at the top of the dialog box.
Item Name Text	Contains the name of the item for which you are submitting a value change. The item name appears in the box grouping the Type and Value fields.
Type Field	Allows you to select the type of change: • Set Value: Changes the current value until another process assumes control. • Hold Value: Maintains the value until another process assumes control. • Remove Hold: Removes the hold on the value.
Value Field	For Set Value and Hold Value types, allows you to select or enter a value in this field.
Description of Change Type Text	Describes the type of change you selected in the Type field. The change type description appears just above the Submit and Cancel buttons.
Submit Button	Submits the change.
Cancel Button	Cancels the change.

3. When you are finished, click Submit. The item value changes to the value you specified.

   When you submit a value change, a refresh request issues after a short delay. If the item receives the change value request prior to the refresh being executed, the updated value appears in the view. If the refresh executes prior to the item receiving the change value request, then the new value does not appear immediately and a manual refresh is required to update the value shown on the screen immediately. The Ready Access Portal refreshes automatically every 5 to 15 seconds. See *Workspace Title Bar* for information on the Refresh button.

Opening the Trend Module

To open the Trend Module for an object on a Graphics+ graphic, click View Trend from the element's User Actions Panel (*Figure 3*). The Trend Module appears with the charted trend data (*Figure 4*). If more than one trended attribute is available, click View Trend to display a submenu that lists all available trended attributes. Click a trended attribute to open the Trend Module.

Figure 3: Selecting a Trend to Add to the Trend Module

If you want to open the Trend Module without adding or changing its content, click the Tools drop-down arrow on the Graphics+ Display Control tool (*Figure 2*) and select Trend. The Trend Module reappears in its last state and condition.

For more details, see *Trend Module Chart Functions* and *Trend Module Legend Functions*.

Trend Module Chart Functions

See *Figure 4* and *Table 14* for explanations of the Trend Module chart components.

Figure 4: Graphics+ Trend Module - Chart Functions

Table 14: Descriptions of Trend Module Chart Components

Number	Name	Description
1	Plot Area	Plots the trend data for all objects added to the Trend Module.
2	Box Zoom	Zooms in for the area that is highlighted. To enable box zoom, place the cursor inside the plot area, hold down the mouse and drag left or right. A white shadow appears to outline the zoom area.
3	Callouts	Indicates the name of the trended object with its value at the selected moment in time (white vertical line).
4	Maximize	Changes the size of the Trend Module to its maximum size within the constraints of the Metasys display panel.
5	Close	Removes the Trend Module from the screen.
6	Zoom Out	Returns the chart to its original size. This option is only available if the chart is currently zoomed in.

Table 14: Descriptions of Trend Module Chart Components

Number	Name	Description
7	Right Y Axis (state data)	Indicates the axis that is plotting the discrete states for objects currently displayed in the Trend Module. Metasys objects that are displayed on this axis typically consist of Boolean or multi-state values.
8	Right Pan Arrow	Shifts the chart to display more recent trend data.
9	Newest Date/Time	Displays date and time of the last value that appears on the chart.
10	Moment in Time (X Axis)	Indicates the date and time of the value at a particular location on the chart. The date/time information as well as a vertical **moment in time lin**e is displayed as you move the mouse over the chart. The units along the x-axis always represent time.
11	Oldest Date/Time	Indicates the date and time of first sample that appears on the chart.
12	Left Pan Arrow	Shifts the chart to display older trend data.
13	Left Y Axis (numeric)	Indicates the axis that is plotting the numeric values for objects currently displayed in the Trend Module. Metasys objects that are displayed using this axis typically consist of analog values.
14	Scroll Bar	Adjusts the range of data that appears on the chart. Also zooms in and out when you resize the scroll bar. To zoom, click and drag the left/right arrows of the scroll bar. To pan, drag the scroll bar left or right.
15	Refresh	Updates the trend data for all objects shown in the Trend Module.

Trend Module Legend Functions

See *Figure 5* and *Table 15* for explanations of the Trend Module legend components.

Figure 5: Graphics+ Trend Module - Legend Functions

Table 15: Descriptions of Trend Module Legend Components

Number	Name	Description
1	Legend Splitter Bar	Resizes the space taken by the legend. Move the splitter to the bottom or double-click the splitter bar to hide the legend and increase the size of the trend chart.
2	Legend Icons	Display both the color and the y-axis that is used to display the trend data for the trended object in this row of the legend. The legend color assigned to an object matches its trended values in the chart, so that you can correlate information between the legend and the chart. Four preset trend line colors are used: blue, orange, violet, and white. The colors cannot be customized. These icons are used: The forward facing **L** indicates that the left y-axis is used for this trend series, which displays numeric values. The backward facing **L** indicates that the right y-axis is used for this trend series, which displays state values.

Table 15: Descriptions of Trend Module Legend Components

Number	Name	Description
3	Show/Hide Trend	Selects which objects currently appear in the chart. Click this box to hide and unhide trend data.
4	Object Name	Displays the name for the trended Metasys object. When you click the object name (or its row), the corresponding line in the chart is highlighted.
5	Trend Name	Displays the name of the trend that appears in the chart. If more than one trend is available for this trended object, a drop-down box appears from which to select.
6	Navigate	Navigates away from the Trend Module and the graphic and opens the trend data for the attribute. If you are not authorized to view the object, the navigate button is disabled.
7	Remove	Removes the trended object and its associated data from the Trend Module.

The Trend Module has the following characteristics:

Loading Indicator

A loading indicator ( ) appears in the chart area while the system is retrieving trend data.

Trend Module Repositioning

You can reposition the trend module anywhere within the graphic's display panel, but not across panels in a multiple-panel layout. To move the Trend Module, drag the title bar.

You can dock the Trend Module by dragging the module outside the panel boundary on the top, bottom, right or left side of the Metasys display panel. The Trend Module does not support multiple monitors.

Zoom Operations

You can zoom in the chart by holding down the mouse and sliding across the chart (either to the left or to the right). This action activates drag zoom. Zoom works for values on the x-axis, not values on the y-axis. To zoom out, click the Zoom Out link that appears in the upper-right corner on a zoomed chart.

You can also zoom from the horizontal scroll bar by clicking and dragging on the ends of the scroll bar.

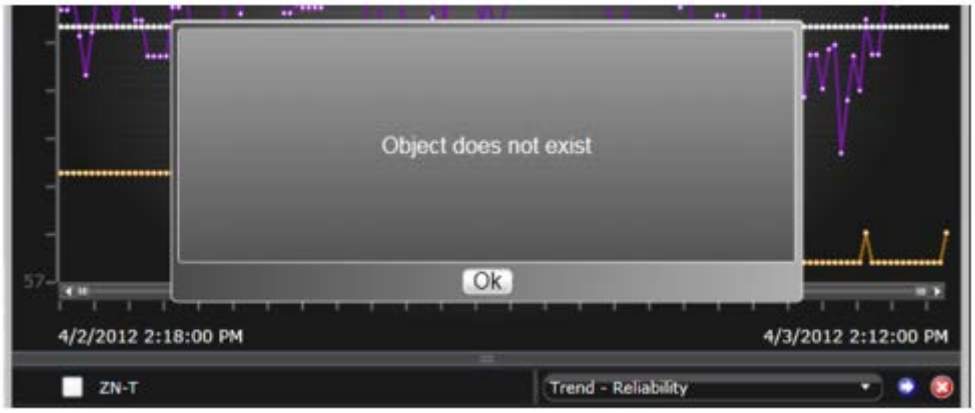
Legend Operations

Once the trend data is plotted, use the check boxes in the legend to hide or unhide trend values from appearing in the chart. If you want to remove the trended object from the legend and the chart, click the remove ( ) button.

To highlight a specific trend object and its data, click on its name in the legend. This action sends the selected series and its associated y-axis information to the foreground of the chart.

If you try to plot a trended attribute that was deleted or whose object is offline, its legend icon is blank and a user message box appears (*Figure 6*).

Figure 6: User Message: No Trend Data Available



Trend Module Limitations

The limitations of the Trend Module are as follows:

- A maximum of 500 data points can be displayed for a single trended object. No data older than 2 years can be displayed.
- The trend data originates from the device's online buffer; samples stored in a historical database such as the JCIHistorianDB archive database are not included.
- You can open only one Trend Module per graphic.
- The Trend Module can chart a maximum of four trended Metasys objects. If you try to plot a fifth object, a user message box appears (*Figure 7*).

Figure 7: User Message Example: Full Trend Module

Unable to add trend data for OA-T. The Trend Module can only display 4 trends. Remove an existing Trend before adding new trends.
Ok

- The Trend Module does not support nested trend extensions. For example, the Trend Module cannot chart totalization extensions that contain a trend extension.
- You cannot save the Trend settings for later use. Once you close the graphic, you need to select the objects for the trend module again.

Refresh Function

The Trend Module does not automatically refresh with new data samples. Use the refresh button to display the latest trend data within the Trend Module.

Error Handling
If an error occurs while stored trend samples are retrieved (for example, the bound trend object does not exist or its supervisory device is offline), the chart line for this trend series does not appear. The error message **Could not retrieve trend information** appears as a tooltip for the existing legend item.

Closing the Trend Module
You close the Trend Module by clicking the **X** in the upper-right corner of the Trend Module screen.

Working in the Schedules Function Mode
See the following task sections related to the Schedules function mode:

- *Viewing a Summary of Schedules*
- *Viewing Details for a Specific Schedule*
- *Viewing Today's Schedule*
- *Viewing Temporary Overrides*
- *Viewing Scheduled Items*
- *Adding a Temporary Override*
- *Deleting a Temporary Override*

Viewing a Summary of Schedules
To view a summary of schedules:

1. Click the *Schedules* function mode button in the Function bar.
2. Select a tree from the *Selection* area drop-down list box.
3. In the selection tree, browse to a folder containing schedules. The *Schedule Summary* view appears in the Workspace area.

Viewing Details for a Specific Schedule
To view details for a specific schedule:

1. Follow the steps in *Viewing a Summary of Schedules* to display the Schedule Summary view.
2. In the Item column of the Schedule Summary view, click a link for the schedule you would like detailed. The *Schedule Details* view appears.
3. See one of the following sections:
    - *Viewing Today's Schedule*
    - *Viewing Temporary Overrides*
    - *Viewing Scheduled Items*

Viewing Today's Schedule
To view today's schedule:

1. If you already have not done so, follow the steps in *Viewing Details for a Specific Schedule* to display the *Schedule Details* view.
2. Click the *Today's Schedule* tab.

Viewing Temporary Overrides
To view temporary overrides:

1. If you already have not done so, follow the steps in *Viewing Details for a Specific Schedule* to display the *Schedule Details* view.
2. Click the *Temporary Overrides* tab.

Viewing Scheduled Items
To view scheduled items:

1. If you already have not done so, follow the steps in *Viewing Details for a Specific Schedule* to display the *Schedule Details* view.
2. Click the *Scheduled Items List* tab.

Adding a Temporary Override

Note: You must have the appropriate privileges to add temporary overrides.

To add a temporary override:

1. In the *Schedules* function mode, do one of the following:
   - In the *Schedule Summary* view or *Tailored Summary* view, click a link in the Value column.
   - In the *Graphic* view, click a dynamic value in the graphic that is bound to a schedule.
   - In the *Schedule Details* view, on the *Temporary Overrides* tab, click the Add Temporary Override link.

     The Add Temporary Override dialog box appears and allows you to temporarily override the output value for a schedule. *Table 16* describes the content of the Add Temporary Override dialog box.
2. Use *Table 16* to complete the Add Temporary Override dialog box.

Table 16: Add Temporary Override Dialog Box Description

Field	Description
Instructions Text	Contains instructions for using the Add Temporary Override dialog box. The instructions appear at the top of the dialog box.
Schedule Name Text	Contains the name of the schedule you are overriding. The item name appears in the box grouping the Effective Date text, Value field, Start Time field, and End Time fields.
Starts On	Allows you to select a date for the start of the override.
Ends On	Allows you to select a date for the end of the override.
Daily Start	Allows you to select the hour and minute of the day for the start of the override. This time is in terms of the days selected in the Starts On and Ends On fields. For the start of the day, select 00 for the Hour and 00 for the Minute.
Daily End	Allows you to select the hour and minute of the day for the end of the override. This time is in terms of the days selected in the Starts On and Ends On fields. For the end of the day, select 24 for the Hour and 00 for the Minute.
Value Field	Allows you to select or enter a value in this field.
Submit Button	Submits the temporary override request.
Cancel Button	Cancels the temporary override request.

3. When you are finished, click Submit.

Deleting a Temporary Override

To delete a temporary override:

1. If you already have not done so, follow the steps in *Viewing Details for a Specific Schedule* to display the *Schedule Details* view.
2. Click the *Temporary Overrides* tab.
3. In the Delete Temporary Override column, click the garbage can icon (). A message appears stating that the temporary override is to be deleted permanently.
4. Click OK. The temporary override disappears and no longer affects the schedule.

Working in the Diagnostics Function Mode

The following task sections apply to the Diagnostics function mode:

- *Viewing a Summary of Trends*
- *Viewing Details on a Specific Trend*

Viewing a Summary of Trends

To view a summary of trends:

1. Click the *Diagnostics* function mode button in the Function bar.
2. Select a user navigation tree from the *Selection* area drop-down list box.
3. In the selection tree, browse to a folder containing trended items (or nested folders with trended items). The *Trend Summary* view appears in the Workspace area.

Viewing Details on a Specific Trend

To view details on a specific trend:

1. Follow the steps in *Viewing a Summary of Trends* to display the *Trend Summary* view.
2. In the Trend column of the Trend Summary view, click a link for the trend extension you would like detailed. The *Trend Details* view appears.
3. To toggle between the graphical and tabular formats, click the Format button. This button appears as a chart icon ( ) when you are in table view and as a table icon ( ) when you are in chart view (default view format).

Working in the Tools Function Mode

For information on working with the Tools function mode, refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)*.

Performing Other Actions

- *Sorting View Columns*
- *Paging through a View*
- *Printing*
- *Viewing System Information*
- *Logging Out*

Sorting View Columns

To sort view columns, do one of the following:

- Click the sort arrows ( ) icon.
- Click the linked column label.

Note: You can sort by a single column only.

Note: If only the up arrow is white, the column is sorted in ascending order. If only the down arrow is white, the column is sorted in descending order. If neither arrow is white, the column is unsorted or restored to its default order.

Paging through a View

When scrolling does not display all items in a view, page links ( ) appear at the bottom. These links allow you to go to the previous/next page, first/last page, or a specific page of the view table.

To page through a view, click one of following:

Left-Most Triangle: Takes you to the first page.

Left-Facing Triangle: Takes you to the previous page.

Specific Page Number: Takes you to a specific page.

Right-Facing Triangle: Takes you to the next page.

Right-Most Triangle: Takes you to the last page.

Printing

Printing Content from the Ready Access Portal UI
To print content from the Ready Access Portal UI, use the browser's print functionality.

Printing the Help
To print the Help, use the following instructions.

Do you want to print a specific topic from the Help system?

To print a specific topic, use the web browser print functionality.

Do you want to print the entire Help system?

To print the entire Help system, refer to this link in QuickLit:
http://cgproducts.johnsoncontrols.com/MET_PDF/12011342.pdf.

Viewing System Information

To view the System Information page:

1. Click the System Information link at the bottom-right corner of the Ready Access Portal UI screen. The Ready Access Portal System Information page appears in a new browser window.
2. View the Ready Access Portal and Metasys Graphics Package software versions, copyright information, and system status and alert colors.

Logging Out

To log out of the Ready Access Portal, click the Logout button ( ).

Forced logouts happen in the following circumstances:

- If a session times out, the user is logged off and returned to the logon screen.
- If the computer running the Ready Access Portal software restarts, users return to the login screen with their next click.
- After a Metasys system Administrator clicks the Start Update button, the Ready Access Portal logs the Metasys system Administrator out of the system immediately. All other users return to the logon screen with their next click.

Ready Access Portal Troubleshooting

Problems that occur during use of the Ready Access Portal software write to a .txt log file in this location:

C:\Program Files\Johnson Controls\MetasysRAP**software_version**\app\log\log.txt

C:\Program Files (x86)\Johnson Controls\MetasysRAP**software_version**\app\log\log.txt (Windows Server® 2008 R2 OS, 64-bit)

Note: **software_version** represents the version of the Ready Access Portal software you have.

Note: If you install the Ready Access Portal software on a drive other than C, browse to that location.

Table 17 contains troubleshooting information for the Ready Access Portal UI.

Table 17: Ready Access Portal UI Troubleshooting

Problem	Solution
After renaming the computer running Ready Access Portal, a graphic does not display and you see the following message: `Unable to display graphic due to unanticipated circumstances.`	This problem occurs when Ready Access Portal is not uninstalled and reinstalled on the computer during the rename process. To resolve this problem, uninstall Ready Access Portal software and delete the Ready Access Portal database before you rename the computer. Refer to the *Ready Access Portal Software* appendix in the *ADS/ADX Turnkey User's Guide (LIT-12011177)* for details.
The Ready Access Portal accepts user name and password credentials, but the user interface does not appear using a computer with the Windows® 7 operating system and Internet Explorer® 10 web browser.	To resolve this problem: 1. Open Internet Explorer 10 on the client computer that you use to browse to the Ready Access Portal UI. 2. On the Tools menu, verify ActiveX Filtering is not selected. If it is selected, click to clear the selection. 3. On the Tools menu, select SmartScreen Filter > Turn off SmartScreen Filter. The Microsoft SmartScreen Filter window appears. (If the selection is Turn on SmartScreen Filter instead, skip these steps because the filter is already off.) 4. Click OK to turn off the SmartScreen Filter. 5. Verify you can log in to the Ready Access Portal UI. **Note:** If you continue to experience problems logging in to the Ready Access Portal UI after you configure the previous settings, add the URL for the Ready Access Portal server as a trusted site under Internet Options > Security tab > Trusted Sites.

Table 17: Ready Access Portal UI Troubleshooting

Problem	Solution
You have problems accessing the Site Director and you see the following message: `Cannot login: The Metasys site director device is not available.`	This problem occurs when the Site Director is offline or not communicating over the network. To resolve this problem, the Metasys system Standard Access Administrator must make sure the Site Director is online and communicating over the network before attempting to log in to the Ready Access Portal UI. Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for details. Verify that the time set for Site Director and computer running the Ready Access Portal software do not differ by more than 5 minutes and that the two computers are in the same time zone.
When you access the Alarm Summary view, no alarms appear.	The problem may occur if the Metasys system Standard Access Administrator does not perform the steps required to forward alarms to the Ready Access Portal UI. To resolve this problem, the Metasys system Standard Access Administrator must forward alarms to the Ready Access Portal UI. Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for details.
	This problem may occur if: • You are upgrading from a release earlier than Release 3.0. • You are upgrading from Release 3.0 or later and you have not edited your Metasys system preferences. To resolve this problem: 1. Log in to the SMP of the Site Director as a Metasys system Administrator. 2. On the Tools menu, click Configure Preferences. 3. Use the Metasys system *Help (LIT-1201793)* to update or toggle a system preference. The goal is to enable the Save button. 4. Click Save. 5. Update the Ready Access Portal UI with the Site Director. Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for details.
When you access the Alarm Summary view, the alarms appear to lag behind what is visible in the Site Management Portal UI.	This problem happens when the Site Director and computer running the Ready Access Portal software do not have similar capabilities. To resolve this problem, match the platform of the computer running the Ready Access Portal to the type of Site Director you are using. Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for details.
The following appears in the cells of a view: `Error`	To resolve this issue, hover over the error to view a tool tip with error information. If the tool tip is Timeout, refresh your browser window and the values should appear. In some cases, errors occur because the time set for the Site Director and computer running the Ready Access Portal software differ by more than 5 minutes or the two computers are in different time zones. Refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)*.

Table 17: Ready Access Portal UI Troubleshooting

Problem	Solution
When you use Internet Explorer version 7 to display the Ready Access Portal UI, a message appears in the Information bar warning you about active content.	This message is a result of increased security in Internet Explorer version 7. To resolve this problem: 1. Click the Information bar. 2. Select Allow Blocked Content.
When you use Internet Explorer version 8 to display the Ready Access Portal UI, the UI may not appear properly (for example, the header area does not appear).	If you are using Internet Explorer version 8, verify that you are using Compatibility view. To verify Compatibility view: 1. Log in to the Ready Access Portal UI. 2. On the Internet Explorer Tools menu, verify that Compatibility View is selected. 3. If Compatibility View is not selected, select Compatibility View Settings. 4. Click Add. The Ready Access Portal address appears in the list of sites in the websites that you have added to Compatibility View box.
You cannot find a way to change your password.	The Ready Access Portal UI does not provide a way to change your password unless it is required. If you wish to change your password before you are required to do so, it must be changed using the Site Management Portal UI.

The following error message appears when you try to log in to the Ready Access Portal UI from a computer running the Windows Server 2003 R2 OS:
`HTTP 403 Forbidden`
`The website declined to show this webpage`
	This error occurs because of Windows Enhanced Security on Windows Server 2003 R2.
	We do not recommend using Windows Server 2003 R2 as the computer you use to browse to the Ready Access Portal UI. If you choose to use this OS on the computer browsing to the Ready Access Portal, you must disable the Windows Enhanced Security to enable the local browser to use JavaScript® technology. For information, refer to the *Windows Server 2003 OS with Service Pack 2 and R2 Considerations* appendix in the *Network and IT Guidance for the BAS Professional Technical Bulletin (LIT-12011279)*.

The following error message appears when you try to log in to the Ready Access Portal UI from a computer with a firewall enabled (such as Windows XP® firewall): `Site not found`	This error occurs because the firewall is blocking the Ready Access Portal content. To resolve this issue, you must open the following ports: • Port 80 (HTTP) • Port 443 (HTTPS) **Note:** If you configured the Ready Access Portal software to use alternative ports, be sure to open those ports.
You see an error that contains the following text: `HTTP 404`	This error occurs if you did not allow ASP.NET on your Windows 2003 Server R2 OS computer. To resolve this error, enable ASP.NET. Refer to the *Installing and Allowing ASP.NET for Windows Server 2003 OS* section of the *Ready Access Portal Software Installation Instructions (LIT-12011523)* for details.

Table 17: Ready Access Portal UI Troubleshooting

Problem	Solution
You perform an action (click a link or button) and the login screen appears.	This behavior happens in the following circumstances: • The Metasys system Administrator initiates an update. • The computer running the Ready Access Portal software restarts. • The timeout period for the logged in user elapses.
You make changes in the Site Director and update the Ready Access Portal UI, but the changes do not appear.	This problem may occur if you make changes in an engine and do not take the appropriate steps. To resolve this issue, if you make changes in any engine on the site, issue an Archive command for the Engine object before you update the Ready Access Portal UI. Changes that require an Archive command are the following: • Add, remove, or modify user views. • Add or remove trends extensions. • Add or remove field points.
You are using Ready Access Portal software on a site with Metasys for Validated Environments (MVE), extended architecture, and signatures/annotations are not being created when you perform actions in the Ready Access Portal UI.	Ready Access Portal software does not support MVE electronic signature or electronic signature annotation requirements.
You submit a change value request or perform a similar action and the Ready Access Portal UI does not update for the new value.	This behavior occurs because when you submit a value change, a refresh request issues after a short delay. If the item receives the change value request prior to the refresh being executed, the updated value appears in the view. If the refresh executes prior to the item receiving the change value request, then the new value does not appear immediately and a manual refresh is required to update the value shown on the screen. The Ready Access Portal UI refreshes automatically every 5 to 15 seconds. To resolve this issue, perform a manual refresh. See *Workspace Title Bar* for information on the Refresh button.

While viewing several open Ready Access Portal UI windows, you see this error:
`Server Error in '/RAP' Application.`
`Failed to load viewstate.`
The Ready Access Portal log does not record a problem.
	This problem occurs because you opened new windows of the Ready Access Portal UI incorrectly.
	If you want to run more than one Ready Access Portal UI window, open a new window from the Start menu or double-click the Internet Explorer icon. Do **not** create a window using the File > New Window selection, File > New > Tab selection, or the Ctrl-N shortcut.

Points that no longer exist in the system but are still defined in a Tailored Summary appear differently in the Site Management Portal UI than in the Ready Access Portal UI.	This is expected behavior. Points that no longer exist in the system but still are defined in a Tailored Summary display **Error** in each column when viewed in the Site Management Portal UI. When you view the Tailored Summary in the Ready Access Portal UI, the same points display **- - -** in each column.
IP addresses for devices not upgraded to Release 5.0 or later appear differently in Tailored Summaries in the Site Management Portal UI than in the Ready Access Portal UI.	This is expected behavior. IP addresses for devices not upgraded to Release 5.0 or later appear as the appropriate value when viewed in the Site Management Portal UI Tailored Summaries. When you view a Tailored Summary in the Ready Access Portal UI, the value is (**Complex**). IP addresses for devices that are running Release 5.0 display correctly.

Table 17: Ready Access Portal UI Troubleshooting

Problem	Solution
You use the Back button to log in multiple users at the same time and devices on your Metasys network reset.	The Back button does not log a user off of the system. If you use the Back button to log in multiple users at one time, Metasys system devices may exceed the number of supported simultaneous logged in users. If this occurs, the device may reset. Do not use the Back button to log in multiple users at one time. See *Web Browser Interaction*.
Event Action When Full attribute set to Stop has different consequences when forwarding to an ADS/ADX versus the Ready Access Portal.	When forwarding events, this attribute set to Stop allows new incoming events to overwrite events already forwarded on to an ADS/ADX or Ready Access Portal computer. When you forward events to the ADS/ADX, you have the opportunity to see the forwarded events in the ADS/ADX indefinitely. But, when you forward events to the Ready Access Portal, the Ready Access Portal computer purges forwarded events after 10 days; however, only events from the last 5 days appear by default.
You attempt to view a graphic and instead see this message and a Microsoft Silverlight plug-in button: `The proper version of Silverlight required to view Metasys Graphics is not installed.`	The Silverlight plug-in is required to view graphics in the Ready Access Portal UI. To resolve this issue: 1. Click the button in the Ready Access Portal UI. 2. Follow the instructions on the screen. 3. Refresh the browser window. For details on installation, refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)*.
You attempt to view a graphic after installing or upgrading the Microsoft Silverlight plug-in, but the graphic does not appear.	The Silverlight plug-in installation or upgrade process requires you to restart the browser session to view graphics. To restart the browser, close and reopen the Ready Access Portal UI.
You attempt to view a graphic and the following message appears: `This view is not supported for the selected item.`	This error appears when you attempt to view a graphic in a function mode/view that does not support graphics. To display a graphic, use the Summary function mode.
An orange triangle with exclamation point ( ) appears next to the Logout button in the Ready Access Portal UI. When you place your cursor over the triangle, the following text appears: `Automatic updates are currently unavailable. Refreshing your browser or displaying a different view may correct the problem. If this condition continues, contact a Metasys administrator for assistance.`	This problem occurs if there is a problem with the automatic refresh. Possible reasons for this issue are heavy LAN network traffic or a busy computer because too many programs are open. To resolve this issue, click the web browser Refresh button or select another Ready Access Portal UI view. If this action does not resolve the problem, the **MetasysSysAgent** user might have been selected as the SQL Server login name when the Ready Access Portal software was installed. To resolve this issue, uninstall, then reinstall the Ready Access Portal using a new SQL Server login name, such as MetasysRap.

Table 17: Ready Access Portal UI Troubleshooting

Problem	Solution
You would like to display the time in 12-hour format instead of 24-hour format.	To change the time display in the Ready Access Portal: 1. Open Notepad. 2. On the File menu, select Open. 3. Browse to C:\Program Files\Johnson Controls\Metasys RAP\release\web\web.config or C:\Program Files (x86)\Johnson Controls\Metasys RAP\release\web\web.config (Windows Server 2012 and Windows Server 2008 R2, 64-bit). **Note:** In the path, release is the number of the release you currently have installed. 4. Click Open. 5. Look for the line with this text: <add key="TwelveHourFormatEnabled" value="false"/> 6. Replace false with **true**. 7. Save the file and close all windows. 8. Log in to the Ready Access Portal UI. Times should now appear in 12-hour format.
User views do not appear in the selection trees and the following JavaScript error appears: `HeartbeatService is undefined in Default.js`	This behavior occurs if you do not enable HTTP activation when you configured your OS. For instructions on enabling HTTP activation, refer to the *Ready Access Portal Software Installation Instructions (LIT-12011523)* or *ADS, ADX, and SCT Installation and Upgrade Instructions Wizard Content (LIT-12011331)*.

Graphics+ Runtime Help Reference

The Graphics+ Runtime Help Reference describes the operational characteristics of Graphics+ elements as displayed in the Ready Access Portal user interface. This reference describes all of the elements found in Graphics+ objects created with the Graphic Generation Tool (GGT). The information for each element includes the following details:

- Description
- Image
- Runtime characteristics

For information on how to create Graphics+ objects, refer to the *Graphic Generation Tool Help (LIT-12011697)*.

Note: You must have the Microsoft® Silverlight 5.0 (or higher) plug-in to view Graphics+ objects created by the GGT. If you do not have the Silverlight 5.0 (or higher) plug-in installed, you are prompted to do so the first time you view a graphic. After you follow the prompt and install Silverlight 5.0 (or higher), log off the Metasys system, close your browser for the change to take effect, then log in to the Metasys system again. For additional installation instructions, refer to the *ADS, ADX, and SCT Installation and Upgrade Instructions Wizard (LIT-12011521)*.

Graphics+ Runtime Concepts

GEL Overview

When you create a graphic with the Graphic Generation Tool (GGT), the Graphic Enterprise Library (GEL) provides the following elements for your use:

- Basic elements (for example, Advanced Value Box, Inline Command Box, Key Data, Gauges)
- Electrical and fire elements
- Floor plan elements (Building, Floor, Floor Group, Room Status)
- HVAC elements (all HVAC air and water elements)
- Lighting, network, security, and terminal unit elements
- Templates (Base Template, Mixed Air Dual Path, VAV Series Fan)

As you use these elements to create a graphical representation of your building automation system, you can also create bindings between the elements and Metasys® objects. These bound elements allow you to monitor and control your facility from your computer.

This reference describes all of the elements found in the GEL. The information for each element includes the following details:

- Description
- Image
- User-configurable properties
- Metasys system binding properties
- Runtime characteristics

Configuration Mode Versus Runtime Mode

When you use GGT to create graphics, you work in configuration mode. This mode allows you to **configure** each graphic to look and behave in certain ways based on the user-configurable properties and bindings that are available to the graphic.

When you view the graphics in the Metasys system (System Configuration Tool, Site Management Portal, or Ready Access Portal), you work in runtime mode. In runtime mode, the graphic appears as it was configured in the GGT. If you view the graphic on an online system (Site Management Portal or Ready Access Portal), data values appear and animations occur based on those data values (for example, a bound fan graphic spins if the fan is on).

Note: You must have the Microsoft Silverlight 5.0 (or higher) plug-in to view Graphics+ objects created by the GGT. If you do not have the Silverlight 5.0 (or higher) plug-in installed, you are prompted to do so the first time you view a graphic. After you follow the prompt and install Silverlight 5.0 (or higher), log off the Metasys system, close your browser for the change to take effect, then log in to the Metasys system again. For additional installation instructions, refer to the *ADS, ADX, and SCT Installation and Upgrade Instructions Wizard (LIT-12011521)*.

Graphics+ Auto-Refreshing

Graphics+ objects use an auto-refresh function that updates the graphic once 50,000 value updates to the graphic occur during one Ready Access Portal UI session. When the 50,000 update threshold approaches, a dialog box appears (*Figure 8*) to notify you that the graphic must be refreshed. Click **Refresh Now** to refresh the graphic immediately, click **Delay** to delay the refresh for 60 seconds, or wait 15 seconds for the system to perform the refresh. When a graphic is refreshed, it reverts to its default display settings.

Figure 8: Auto-Refresh Dialog Box

This graphic will automatically refresh in 15 seconds. Items will revert to their default position.
To delay the refresh 60 seconds, click Delay.
To force a refresh, click Refresh Now.
Delay
Refresh Now

If you delay the refresh operation, a red 60-second countdown box appears in the upper-right corner of the graphic. You can delay the refresh only once.

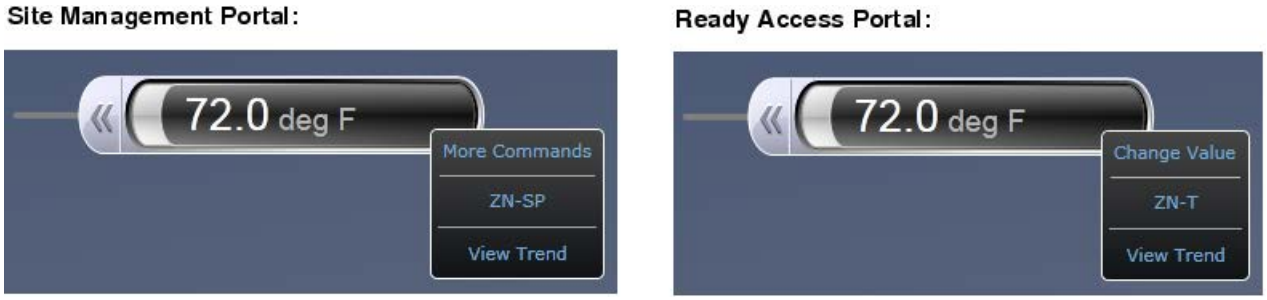
If the system refreshed the graphic, a notification message appears (*Figure 9*) when a refresh has occurred. Click OK to continue.

Figure 9: Auto-Refresh Notification

User Actions Panel

Many elements have a User Actions Panel that appears when you right-click the item when displayed within the Site Management Portal, System Configuration Tool (SCT), or the Ready Access Portal (*Figure 10*).

Figure 10: User Actions Panel



The User Actions Panel lets you perform the following options for the bound Metasys item:

- send a command
- navigate to its Focus window
- view its trend information

If more than one trended attribute exists for the Metasys item, View Trend provides a drop-down list from which you can select the trended attribute (*Figure 11*).

Figure 11: User Actions Panel with Multiple Trended Attributes

On the Ready Access Portal, the types of objects you can navigate to and command are limited.

Library Elements

- *Basic Symbols*
- *Electrical*
- *Fire*
- *Floor Plan*
- *HVAC Air Coils*
- *HVAC Air Sensors*
- *HVAC Boilers*
- *HVAC Chillers*
- *HVAC Cooling Towers*
- *HVAC Dampers*
- *HVAC Ductwork*
- *HVAC Fans*
- *HVAC Heat Exchangers*
- *HVAC Meters*
- *HVAC Pipes*
- *HVAC Water Pumps*
- *HVAC Water Sensors*
- *HVAC Water Valves*
- *Lighting*
- *Network*
- *Security*
- *Terminal Units*

Click a link in the following table for a description of the element.

Table 18: Library Elements

Library Elements		
ADS/X	*Advanced Value Box*	*AHU*
Air Compressor	*Air Handler*	*Air Velocity*
Air-Cooled Chiller	*Alphasonic Level*	*Annunciator*

Table 18: Library Elements

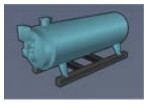
Library Elements		
Barrier	Barrier Alarm	Barrier Contact
Basic Fan	Basic Value Box	Battery
Beam Detector	Blind Flange	Blind System Alarm
Boiler	Booster Pump Set	Breaker
Breaker Earth Leakage	Building	Button
Card Reader	Carrier® Chiller	Check Valve
Chiller	 Cleaver-Brooks® Boiler	Combo Detector
Computer	Condensation Sensor	Condenser Water Storage
Connector (Small)	Contactor	Cooling Tower
Day Sensor	DC (Digital Controller)	Deaerator

Table 18: Library Elements

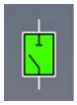
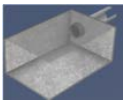
Library Elements		
Differential Pressure	Differential Pressure Sensor	Differential Pressure Switch
Diffuser - Round	Diffuser - Square	 Disconnect
Door Contact	Down-Left Elbow	Down-Right Elbow
Draw Through Tower	DT (Digital Terminal)	Duct CO2
Duct Detector	Duct Dew Point	Duct Gas
Duct Smoke Detector	Duct Temperature and Humidity	Duct Temperature Sensor
DX	DX Coil	Electric Coil
Electric Meter	Elevator Alarm	Emergency Call Disabled Toilet
Emergency Light Fixture	Emergency Push Button	Energy Recovery Wheel
 Exhaust Box	FEC (Gen 1)	FEC (Gen 2)

Table 18: Library Elements

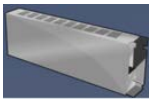
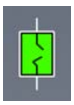
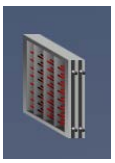
Library Elements		
Filter	 *Fin Tube*	*Fire Damper*
Fire Detector	*Fire Panel*	*Flag Alarm Indicator*
Flag Alarm Supply	*Floor*	*Floor Group*
Flow Meter	*Flow Orifice*	*Flow Paddle Wheel*
Flow Pressure	*Flow Switch* (air)	*Flow Switch* (water)
Flow Switch **(fire)**	*Flow Ultrasonic*	*Flow Venturi*
 *Fuse*	*FX*	 *Gas Coil*
Gas Head	*Gas Meter*	*Gas Panel*
General Alarm	*General Contact*	*Generator*
Generator Fuel System	*Generic Boiler*	*Generic Chiller*

Table 18: Library Elements

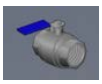
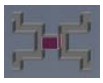
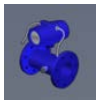
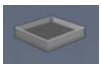
Library Elements		
Generic Sump	 Hand Valve, 2-Way	Hand Valve, 3-Way
 Heat Cool Crossover	Heat Detector	Heat Exchanger
 Heat Meter	Heating Manifold	Heating-Cooling Coil
Horizontal Level Switch	 Horizontal Opposed Damper	Horizontal Parallel Damper
Horizontal Pipe	Horizontal Round Damper	H-Stat
Humidity Sensor	Image	Inline Command Box
Integral Face and Bypass Coil	Intruder Alarm	IU
Johnson Controls Logo	Key Data Module	Key Data Item
Lamp Alarm Indicator	Large Valve, 2-Way Electric	Large Valve, 2-Way Pneumatic
Large Valve, 3-Way Electric	Large Valve, 3-Way Pneumatic	LDT

Table 18: Library Elements

Library Elements		
Light Switch	Lighting Fixture	Linear Gauge
Manual Valve	McQuay® Chiller	MIG
MIG (Old)	Motion Sensor	Murray® Boiler
N2R	N30	NAE/NIE - 55 series
NAE35/45/NCM45	NCM	Network Sensor
NT	Outside Air Temperature with Humidity	Outside Air Temperature with Shield
Outside Air Temperature with Shield II	Overhead Door Contact	Pegasys Controller
Pipe Connector	Pipe Heat Tape	Plate Exchanger
Pressure - Single	Pressure Unit	PRV
Pull Station	Pump	Push Through Tower

Table 18: Library Elements

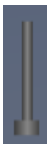
Library Elements		
Radiator	Rain Gauge Sensor	Rain Signal
Rectifier	Remote Sump Tower	Repair Switch
Return Fan	Roof Vent Down	Roof Vent Up
Rooftop Ice Storage	Room CO2	Room Control Module (Multiple Rooms)
Room Control Module	Room Pressure	Room Status
RS9100 Thermostat	Semi-Circular Gauge	Server
Shell Exchanger	 Small Blind Flange	Small Down-Left Elbow
Small Down-Right Elbow	Small Horizontal Pipe	Small Pipe Connector
Small Up-Left Elbow	Small Up-Right Elbow	Small Valve, 2-Way Electric
Small Valve, 2-Way Pneumatic	Small Valve, 3-Way Electric	Small Valve, 3-Way Pneumatic

Table 18: Library Elements

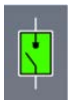
Library Elements		
Small Vertical Pipe	Smoke Detector	Speaker
Speaker with Strobe	State Circle	State Square
State Triangle	Status Summary	Steam Humidifier
Steam Meter	Strobe	Supply Fan
Swipe Reader	Switch	 Switch
T4000 Thermostat	Tamper Switch	Tap
TC (Terminal Controller)	TC9100 Thermostat	TE6700 Thermostat
TEC	Temp Strap-on	Temperature Low Limit Sensor with Manual Reset
Thermal Link	TMZ Thermostat	Trane® Boiler
Trane® Chiller	Transformer	Turnstile

Table 18: Library Elements

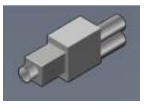
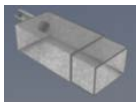
Library Elements		
Ultrasonic Level	UNT	Up-Left Elbow
Up-Right Elbow	UPS	UPS
UV Filter	 VAV - Dual Duct	VAV - Single Duct
 VAV Device	Vertical Level Switch	Vertical Motor Pump
Vertical Opposed Damper	Vertical Parallel Damper	Vertical Pipe
Vertical Pump	Vertical/Horizontal Pump	Vessel
VMA1400	VMA1600	VND
Wall Fan	Water Coil	Water Meter
Weather Station	Weil-McClain® Boiler	Well Temperature

Table 18: Library Elements

Library Elements		
Wind Direction	*Wind Gauge*	*Window Contact*
XT/XTM	*York® Chiller*	

Basic Symbols

This Library category includes the following elements:

- *Advanced Value Box*
- *Basic Fan*
- *Basic Value Box*
- *Button*
- *Image*
- *Inline Command Box*
- *Johnson Controls Logo*
- *Key Data Module*
- *Key Data Item*
- *Linear Gauge*
- *Semi-Circular Gauge*
- *State Circle*
- *State Square*
- *State Triangle*
- *Switch*

Advanced Value Box

This element represents an Advanced Value Box. It allows you to display information for one or two Metasys items (for example, zone temperature and zone temperature setpoint) and send commands to the items.

Figure 12: Advanced Value Box - Single-Value Display

Figure 13: Advanced Value Box - Two-Value Display

The Advanced Value Box element has the following runtime characteristics:

- It consists of one or two Inline Command Boxes. All functionality of the Inline Command Box applies to both the primary and secondary bound item. For information about Inline Command Box functionality, see *Inline Command Box*.
- If you specify a secondary binding, during runtime the left side of the value box contains the primary binding information and the right side of the value box contains the secondary binding information. If you do not specify a secondary binding, the Advanced Value Box contains only the primary binding information.
- If you configured units to display for the Advanced Value Box, the units appear on both sides of the two-value display window.
- It displays in either the collapsed or expanded state, depending on how you configured the element. For example, if you configured the element to appear collapsed, the element appears initially collapsed at runtime. When the element is collapsed, it still displays the status color that corresponds to the status of the primary bound item.
- If you did not configure the Label Binding property, the string specified within the Label property appears. If you configured the Label Binding property, the attribute value of the bound object appears.
- If the string that makes up the label is too long for the allotted space, the label is truncated with trailing ellipses.
- When you place your cursor over the label, a tooltip displays containing the full label string.

Basic Fan

This element represents a basic fan. The blades rotate when the fan is running and stop when the fan is off.

Figure 14: Basic Fan

The Basic Fan element has the following runtime characteristics:

- The color of the fan blades reflects the current value of the bound item (for example, stopped or running) as defined by the Fan Status section within Metasys system preferences. By default, green indicates a running fan and red a stopped fan. However, if the status of the bound item is not normal (for example, offline), the color of the fan blades reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a non-normal item supersedes the fan status color.
- When the current value of the Value binding is:
  - **Off** - the fan blades do not spin.
  - **On** - the fan blades spin.

Basic Value Box

This element represents a Basic Value Box. Unlike other elements, it does not support commanding or navigating. Instead, it is used simply for the display of the current attribute value of a bound Metasys item, along with an optional indication of status. It functions as a simple, non-editable value box.

Figure 15: Basic Value Box

The Basic Value Box element has the following runtime characteristics:

- If you define the Basic Value Box to show status, the Basic Value Box element sets its background based on the status color associated in Metasys system preferences for the item's current status. Any user-configured background color and foreground color no longer apply. If you do not configure status to appear (for example, the Show Status property is False), the background color and font color appear as configured.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, System Configuration Tool, or the Ready Access Portal. See *User Actions Panel*.
- If the width of the Basic Value Box is not large enough to accommodate the full value, the value is not shown. In this case, you can see the value by viewing the tooltip. To correct, open the graphics file with GGT and enlarge the width of the Basic Value Box or reduce the font size.

Button

This element represents a Button. It allows you (with proper authorization) to navigate to a Metasys item, a URL, or an application.

Figure 16: Button

The Button element has the following runtime characteristics:

- When the button is active, it brightens and changes to blue when you place your cursor over the button.
- When you place your cursor over the button, a tooltip shows the full text of the URL, Metasys item, or application to navigate to and the pointer changes to a finger pointer.
- Buttons configured to be hidden have the same characteristics as visible buttons, but they are not visible in the graphic. Hidden buttons are still active, and they provide the same tooltips as visible buttons.
- If you did not define a navigation binding, no action takes place on a single left-click.
- If the button navigates to a URL (HTTP, HTTPS, FTP), a separate browser window or tab opens to the URL when you click the button. This navigation is constrained by the capabilities of your browser and operating system.
- If the button navigates to a file (for example, file:C\My Documents\Sequence of Operations.pdf), the appropriate application starts and opens the file. If the application required to open the file cannot be found on the local computer, the button does nothing when clicked.
- If the button navigates to a Metasys item (for example, a graphic) with no alias, you navigate to the graphic after clicking the button. If the button navigates to a Metasys item (for example a graphic) with an alias, the defined alias string is resolved by the destination graphic, and you navigate to the graphic after clicking the button.
- If you have permission to view the button's bound Metasys item, clicking the button once takes you to that item. If you do not have permission to view the bound item, the button is inactive (it is not clickable).
- On the Ready Access Portal, the item does not need to be available in the selected navigation tree for the navigation to work. If no associated Ready Access Portal view exists for the item to which you are navigating, the following error message appears:

  ```
  The linked item cannot be viewed in this application. A workstation is necessary
  to view the linked item.
  ```

- Navigating to an application is currently only supported on the Site Management Portal and SCT.
- On the Ready Access Portal, browser security restrictions prevent you from launching applications. If you configure a button to launch an application, the following error message appears when you click the button in the Ready Access Portal:

  ```
  Web browser security does not allow automatic launching of local applications.
  Please use the Run command from your Start menu to launch the following: <APP PATH>
  ```

Image

This element represents an Image. The Image element allows you to import an image and position it in the graphic. The image cannot exceed the allowed maximum size (1 MB), and only the following file types are supported within this element: Joint Photographic Experts Group (JPG or JPEG), Portable Network Graphics (PNG), Scalable Vector Graphics (SVG), and Compressed Scalable Vector Graphics (SVGZ).

Figure 17: Image

The Image element has the following runtime characteristics:

- It displays the image configured within the GGT.
- If you configure an image with a Navigation binding, and you do not have View permission for that item, the element is inactive. In all other cases, the entire element operates as a navigation hotspot if so configured. When you click the element, the graphic viewer navigates to the Metasys item, URL, or application.

Inline Command Box

This element represents an Inline Command Box. It provides an interface that allows you to display the value of a Metasys item and send commands to that item.

Figure 18: Inline Command Box

The Inline Command Box element has the following runtime characteristics:

- It displays the current value of the bound item.
- It may display the status of the bound item.
- It may display the unit of measurement used for the bound attribute value.
- It displays a tooltip showing the textual value of the bound item and its status.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.
- It allows you to send a single user-configured command from the Site Management Portal (SMP) or the Ready Access Portal by typing directly into the element, or selecting a new state from a drop down list. The SCT does not support commanding.
- After you send a command, an animated progress indicator appears while the Metasys system processes the command. During this time, you cannot send any additional commands to the bound object from this element. If the command results in an error, an error message appears. The error message does not disappear without your confirmation.
- The Out of Service and Setpoint commands are not supported on the Ready Access Portal. If an Inline Command Box has been configured to send one of these two commands, an error appears and the command is not sent.

Johnson Controls Logo
This element represents the Johnson Controls® logo.

Figure 19: Johnson Controls Logo

The Johnson Controls Logo element has no runtime characteristics.

Key Data Item

This element represents a Key Data Item. It provides a visual representation of bound data, and it consists of a label and an Inline Command Box.

Figure 20: Key Data Item

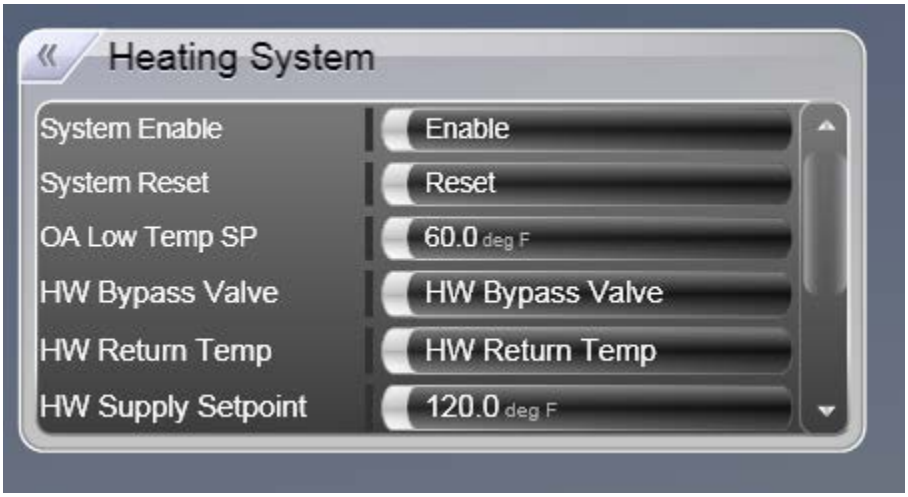
The Key Data Item element has the following runtime characteristics:

- It displays a label on the left and an Inline Command Box on the right. For information about Inline Command Box functionality, see *Inline Command Box*.
- The location of the label is fixed to the left of the value box.
- If you did not configure the Label Binding property, the string specified within the Label property appears. If you configured the Label Binding property, the attribute value of the bound object appears.

Key Data Module

This element represents a Key Data Module. It provides a scrollable container for up to 50 key data items.

Figure 21: Key Data Module



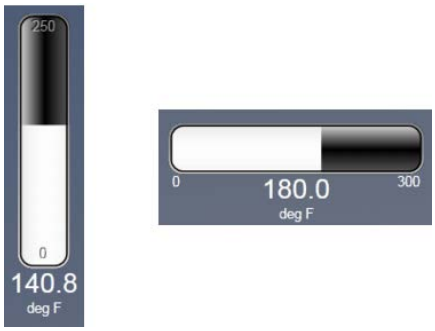
The Key Data Module element has the following runtime characteristics:

- It can be collapsed, expanded, or resized.
- It can be moved to another location on the graphic.
- It provides a vertical scroll bar (if needed) that allows you to view all listed items.
- It provides a splitter bar that allows you to adjust the widths of the label and value sides to aid readability.
- For information about the runtime characteristics of the key data items within the Key Data Module, see *Key Data Item*.

Linear Gauge

This element represents a linear gauge in a vertical or horizontal orientation. It allows you to display information for a Metasys item (for example, zone temperature and zone temperature setpoint) within an analog bar and to send a command to the item. Depending on the orientation of the gauge, the minimum range is specified on the bottom or left and the maximum range is specified on the top or right. A value box appears at the bottom of the gauge. The divider bar is positioned within the gauge according to the current value of the bound item.

Figure 22: Linear Gauge



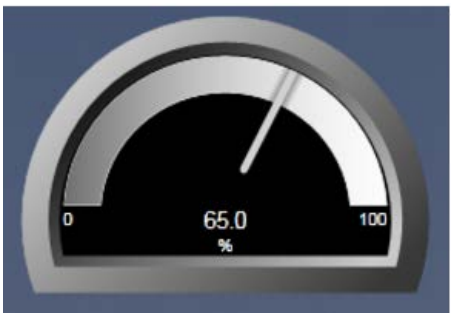
The Linear Gauge element has the following runtime characteristics:

- It may display the current value of the bound item in a value box below the gauge.
- It may display the status of the bound item as the color of the gauge.
- It may display the unit of measurement used for the bound attribute value.
- It may display a background around the units and value.
- It may display the upper and lower ranges of the bound item within the analog bar graph.
- It displays a tooltip showing the textual value of the bound item and its status.
- It represents the current value of the bound item within the analog bar area of the element. For binary items, a value of False is represented as 0 and a value of True is represented as 1. State 1, State 2, and State 3 values are represented as 1, 2, and 3 (respectively).
- It displays the maximum value defined for the gauge if the current value of the bound item is above the maximum value.
- It displays the minimum value defined for the gauge if the current value of the bound item is below the minimum value.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.

Semi-Circular Gauge

This element represents a semi-circular gauge in a horizontal orientation. It allows you to display information for a Metasys item (for example, zone temperature and zone temperature setpoint) within a semi-circular dial and to send a command to the item. The minimum range is specified on the left and the maximum range is specified on the right. A value box appears in the center of the gauge. The analog value needle is positioned according to the current value of the bound item.

Figure 23: Semi-Circular Gauge



The Semi-Circular Gauge element has the following runtime characteristics:

- It may display the current value of the bound item within a value box.
- It may display the status of the bound item as the color of the analog bar.
- It may display the unit of measurement used for the bound attribute value.
- It may display the upper and lower ranges of the bound item within the gauge.
- It displays a tooltip showing the textual value of the bound item and its status.
- It represents the current value of the bound item by the position of the needle. For binary items, when the value is False, the needle moves to 0, and when the value is True, the needle moves to 1. State 1, State 2, and State 3 values are represented as needle positions of 1, 2, and 3 (respectively).
- It displays the maximum value defined for the gauge if the current value of the bound item or attribute is above the maximum value. The needle is pinned to the rightmost position and the actual value appears in the value box.
- It displays the minimum value defined for the gauge if the current value of the bound item or attribute is below the minimum value. The needle is pinned to the leftmost position and the actual value appears in the value box.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.

State Circle

This element represents a circle. The circle's color indicates the current state of a Metasys item (for example, lights on or off and equipment running or stopped).

Figure 24: State Circle

The State Circle element has the following runtime characteristics:

- Its color reflects the current value of the bound item (for example, State 1 or State 2) as defined by the circle's State Color properties. However, if the status of the bound item is non-normal (for example, offline), the circle color reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a not normal item supersedes its state color.
- When the value of the bound item is 0, 1, 2, or 3, the color as defined for State 0, State 1, State 2, or State 3 is used. Any value greater than 3 uses the All Other States color.
- It flashes when the bound item is in alarm if Basic Shape Flashing is enabled under Metasys system preferences. Flashing behavior can be customized using the settings within Metasys system preferences (for example, flash colors and flash duration).
- It displays a tooltip showing the textual value of the bound item and its status.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.

State Square

This element represents a square. The square's color indicates the current state of a Metasys item (for example, lights on or off or equipment running or stopped).

Figure 25: State Square

The State Square element has the following runtime characteristics:

- Its color reflects the current value of the bound item (for example, State 1 or State 2) as defined by the square's State Color properties. However, if the status of the bound item is non-normal (for example, offline), the square color reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a not normal item supersedes its state color.
- When the value of the bound item is 0, 1, 2, or 3, the color as defined for State 0, State 1, State 2, or State 3 is used. Any value greater than 3 uses the All Other States color.
- It flashes when the bound item is in alarm if Basic Shape Flashing is enabled under Metasys system preferences. Flashing behavior can be customized using the settings within Metasys system preferences (for example, flash colors and flash duration).
- It displays a tooltip showing the textual value of the bound item and its status.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.

State Triangle

This element represents a triangle. The triangle's color indicates the current state of a Metasys item (for example, lights on or off or equipment running or stopped).

Figure 26: State Triangle

The State Triangle element has the following runtime characteristics:

- Its color reflects the current value of the bound item (for example, State 1 or State 2) as defined by the triangle's State Color properties. However, if the status of the bound item is non-normal (for example, offline), the triangle color reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a not normal item supersedes its state color.
- When the value of the bound item is 0, 1, 2, or 3, the color as defined for State 0, State 1, State 2, or State 3 is used. Any value greater than 3 uses the All Other States color.
- It flashes when the bound item is in alarm if Basic Shape Flashing is enabled under Metasys system preferences. Flashing behavior can be customized using the settings within Metasys system preferences (for example, flash colors and flash duration).
- It displays a tooltip showing the textual value of the bound item and its status.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.

Switch

This element represents a two- or three-position switch for conveying the current state of the bound Metasys item, and lets you send a command to the item.

Figure 27: Switch

The Switch element has the following runtime characteristics:

- It displays the current value of the bound item by its switch position.
- It displays at the first switch position if the value is 0, displays at the second switch position if the value is 1, and displays at the third switch position if the value is 2. If the bound item is commanded to a state greater than the number of positions shown on the switch, the switch moves to the first position.
- It may display the status of the bound item within the inner circle of the switch. The colors used depend on Metasys system preference definitions.
- It displays a tooltip showing the textual value of the bound item and its status.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*.

Electrical

This Library category includes the following elements:

- *Battery*
- *Breaker*
- *Breaker Earth Leakage*
- *Connector (Small)*
- *Contactor*
- *Disconnect*
- *Flag Alarm Indicator*
- *Flag Alarm Supply*
- *Fuse*
- *Generator*
- *Generator Fuel System*
- *Lamp Alarm Indicator*
- *Rectifier*
- *Switch*
- *Transformer*
- *UPS*

Battery
This element represents a battery in an electrical drawing.

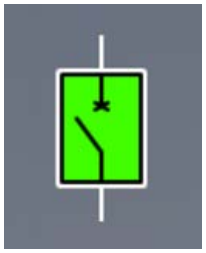
Figure 28: Battery

The Battery element has no Metasys bindings.

Breaker

This element represents a circuit breaker in an electrical drawing.

Figure 29: Breaker



The Breaker element has the following runtime characteristics:

- The background color of the element is set based on the status of the Status binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When the value of the Status binding is:
  - **Closed** - the bent arm touches the X.
  - **Open** - the bent arm does not touch the X.

Breaker Earth Leakage

This element represents an Earth Leakage Circuit Breaker (ELCB) in an electrical drawing.

Figure 30: Breaker Earth Leakage

The Breaker Earth Leakage element has no Metasys bindings.

The Breaker Earth Leakage element has no runtime characteristics.

Connector (Small)
This element represents cabling and the distribution of electricity.

Figure 31: Connector (Small)

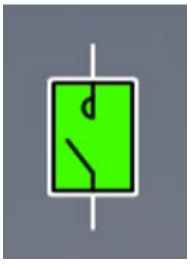
The Connector (Small) element has no Metasys bindings.

The Connector (Small) element has no runtime characteristics.

Contactor

This element represents a single contact or single-pole switch for motor control.

Figure 32: Contactor

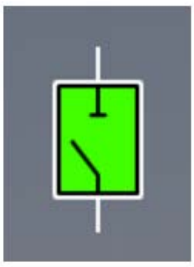


The Contactor element has the following runtime characteristics:

- The background color of the element is set based on the status of the Status binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When the value of the Status binding is:
  - **Closed** - the bent arm touches the half circle.
  - **Open** - the bent arm does not touch the half circle.

Disconnect
This element represents a disconnect switch.

Figure 33: Disconnect



The Disconnect element has the following runtime characteristics:

- The background color of the element is set based on the status of the Status binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When the value of the Status binding is:
  - **Closed** - the bent arm touches the inverted T.
  - **Open** - the bent arm does not touch the inverted T.

Flag Alarm Indicator
This element represents a flag alarm indicator, which is used to indicate that there is a problem with a piece of equipment at a client site.

Figure 34: Flag Alarm Indicator

The Flag Alarm Indicator element has the following runtime characteristics:

- When the value of the Status binding is:
  - **Show** - the flag alarm indicator appears.
  - **Hide** - the flag alarm indicator does not appear.

Flag Alarm Supply
This element represents a flag alarm supply, which is used to indicate that there is an issue with the electrical distribution at a client site.

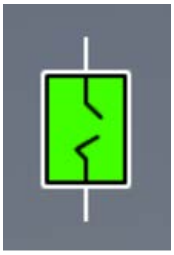
Figure 35: Flag Alarm Supply

The Flag Alarm Supply element has the following runtime characteristics:

- When the value of the Status binding is:
  - **Show** - the flag alarm supply appears.
  - **Hide** - the flag alarm supply does not appear.

Fuse
This element represents a fuse in an electrical drawing.

Figure 36: Fuse



The Fuse element has the following runtime characteristics:

- The background color of the element is set based on the status of the Status binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When the value of the Status binding is:
  - **Closed** - the line inside the element is unbroken.
  - **Open** - the line inside the element is broken.

Generator

This element represents a generator in its three variations - electrical, diesel, or gas turbine.

Figure 37: Generator - Electrical

Figure 38: Generator - Diesel

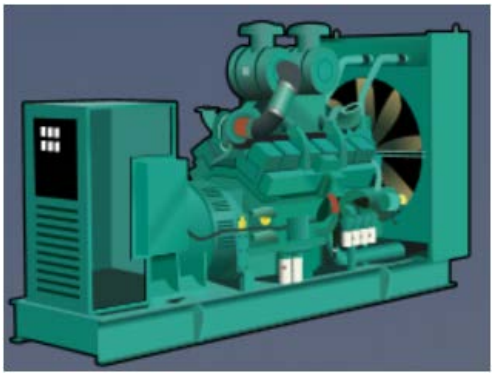
Figure 39: Generator - Gas Turbine

The Generator element has the following runtime characteristics:

- The background color of the circular portion of the element is static; it does not change to reflect the status of the bound item.
- The background color of the non-circular portion of the element is set based on the status of the Status binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The text color inside the non-circular portion of the element changes to either black or white, according to the background color, to ensure that it is always visible.

Generator Fuel System
This element represents a generator fuel system.

Figure 40: Generator Fuel System

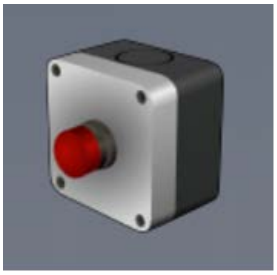


The Generator Fuel System element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.
- When the value of the Value binding within the Fuel Primary binding group is:
  - **Empty** - the fuel tank appears completely empty.
  - **10% Full** - the fuel tank appears 10% full.
  - **20% Full** - the fuel tank appears 20% full.
  - **30% Full** - the fuel tank appears 30% full.
  - **40% Full** - the fuel tank appears 40% full.
  - **50% Full** - the fuel tank appears 50% full.
  - **60% Full** - the fuel tank appears 60% full.
  - **70% Full** - the fuel tank appears 70% full.
  - **80% Full** - the fuel tank appears 80% full.
  - **90% Full** - the fuel tank appears 90% full.
  - **100% Full** - the fuel tank appears 100% full.

Lamp Alarm Indicator
This element represents a lamp alarm indicator, which is another method of indicating an alarm.

Figure 41: Lamp Alarm Indicator



The Lamp Alarm Indicator element has the following runtime characteristics:

- When the value of the Status binding is:
  - **Lit** - the lamp alarm appears illuminated.
  - **Unlit** - the lamp alarm appears dimmed.

Rectifier

This element represents a rectifier in an electrical drawing.

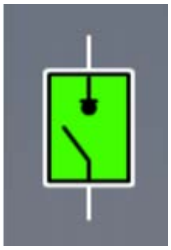
Figure 42: Rectifier

The Rectifier element has no Metasys bindings.

The Rectifier element has no runtime characteristics.

Switch
This element represents a switch in an electrical drawing.

Figure 43: Switch



The Switch element has the following runtime characteristics:

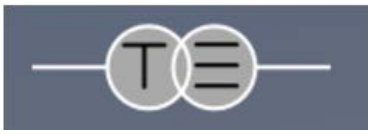
- The background color of the element is set based on the status of the Status binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When the value of the Status binding is:
  - **Closed** - the bent arm touches the black circle.
  - **Open** - the bent arm does not touch the black circle.

Transformer

This element represents a transformer in an electrical drawing.

Figure 44: Transformer - Vertical Orientation

Figure 45: Transformer - Horizontal Orientation



The Transformer element has no Metasys bindings.

The Transformer element has no runtime characteristics.

UPS

This element represents an uninterruptible power supply (UPS).

Figure 46: UPS

The UPS element has no Metasys bindings.

The UPS element has no runtime characteristics.

Fire

This Library category includes the following elements:

- *Annunciator*
- *Beam Detector*
- *Combo Detector*
- *Duct Detector*
- *Fire Detector*
- *Fire Panel*
- *Flow Pressure*
- *Flow Switch*
- *General Alarm*
- *General Contact*
- *Heat Detector*
- *Pull Station*
- *Smoke Detector*
- *Speaker*
- *Speaker with Strobe*
- *Strobe*
- *Tamper Switch*

Annunciator
This element (depicted in its three available shapes) represents an annunciator.

Figure 47: Annunciator

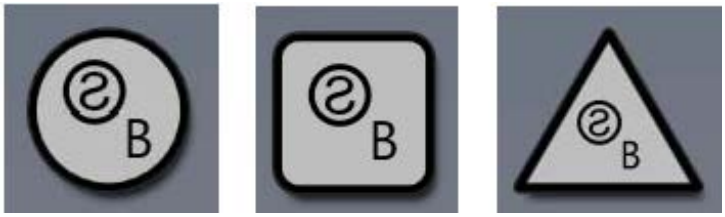
The Annunciator element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Beam Detector

This element (depicted in its three available shapes) represents a beam detector.

Figure 48: Beam Detector



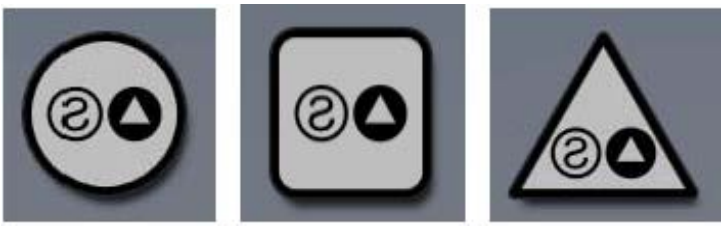
The Beam Detector element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Combo Detector

This element (depicted in its three available shapes) represents a combo detector, which detects both smoke and carbon monoxide (CO) gas in the air.

Figure 49: Combo Detector



The Combo Detector element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Duct Detector

This element (depicted in its three available shapes) represents a duct detector, which detects smoke in an air duct system, thereby helping to prevent the spread of smoke and fire through the air duct system.

Figure 50: Duct Detector

The Duct Detector element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Fire Detector

This element (depicted in its three available shapes) represents a fire detector, which detects fires and explosions.

Figure 51: Fire Detector

The Fire Detector element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Fire Panel

This element (depicted in its three available shapes) represents a fire panel, which acts as the controlling component of a fire alarm system.

Figure 52: Fire Panel

The Fire Panel element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Flow Pressure

This element (depicted in its three available shapes) represents a flow pressure device, which acts as the sensing element in a flow meter, or flow logger, to record the rate of fluid flow.

Figure 53: Flow Pressure

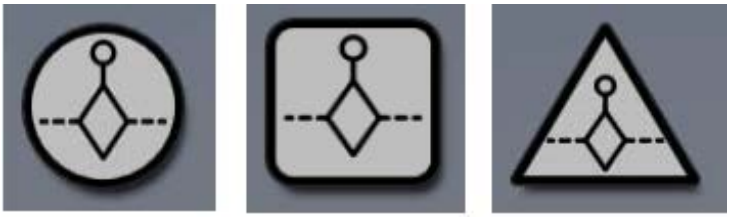
The Flow Pressure element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Flow Switch

This element (depicted in its three available shapes) represents a flow switch, which monitors flow (for example, air, steam, or liquid) and sends a trip signal to another device, such as a pump or cooling circuit, to protect the device.

Figure 54: Flow Switch



The Flow Switch element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

General Alarm

This element (depicted in its three available shapes) represents a general alarm.

Figure 55: General Alarm

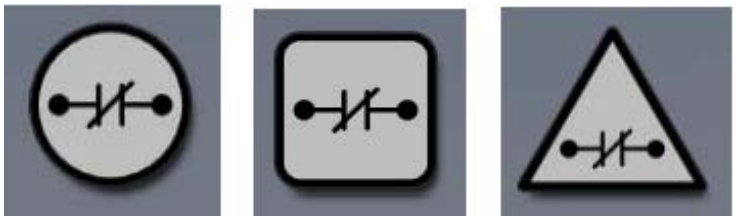
The General Alarm element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

General Contact

This element (depicted in its three available shapes) represents a general contact.

Figure 56: General Contact



The General Contact element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Heat Detector

This element (depicted in its three available shapes) represents a heat detector, which responds to changes in ambient temperature by triggering an alarm signal.

Figure 57: Heat Detector

The Heat Detector element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Pull Station

This element (depicted in its three available shapes) represents a pull station, which is a wall-mounted device that allows an alarm to be manually set off by anyone.

Figure 58: Pull Station

The Pull Station element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Smoke Detector

This element (depicted in its three available shapes) represents a smoke detector, which detects smoke, typically as an indicator of fire.

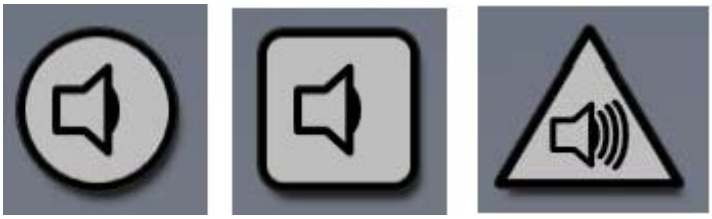
Figure 59: Smoke Detector

The Smoke Detector element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Speaker
This element (depicted in its three available shapes) represents a speaker, which broadcasts instructions during an emergency.

Figure 60: Speaker



The Speaker element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Speaker with Strobe

This element (depicted in its three available shapes) represents a speaker with strobe, which broadcasts instructions and flashes during an emergency.

Figure 61: Speaker with Strobe

The Speaker with Strobe element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Strobe

This element (depicted in its three available shapes) represents a strobe, which flashes during an emergency.

Figure 62: Strobe

The Strobe element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Tamper Switch

This element (depicted in its three available shapes) represents a tamper switch, which mounts to AFD and LFD Series water flow devices to monitor removal of the cover.

Figure 63: Tamper Switch

The Tamper Switch element has the following runtime characteristics:

- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The foreground color of the element is always visible (for example, if the background color is black, then the foreground color of the element is white).
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Floor Plan

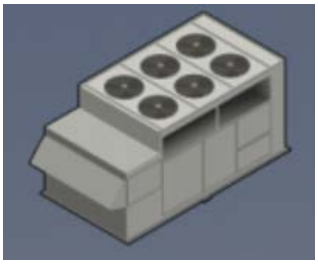
This Library category includes the following elements:

- *Air Handler*
- *Boiler*
- *Building*
- *Chiller*
- *Cooling Tower*
- *Diffuser - Round*
- *Diffuser - Square*
- *Fire Damper*
- *Floor*
- *Floor Group*
- *Heat Exchanger*
- *H-Stat*
- *PRV*
- *Pump*
- *Room Control Module (Multiple Rooms)*
- *Room Status*
- *Status Summary*
- *VAV - Dual Duct*
- *VAV - Single Duct*
- *Wall Fan*

Air Handler

This element represents an air handler, which conditions and circulates air as part of a HVAC system. This device is also known as an Air Handling Unit (AHU).

Figure 64: Air Handler



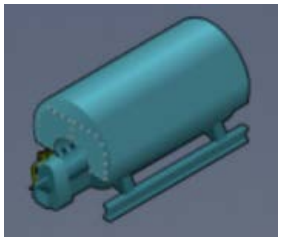
The Air Handler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the fans on the top of the unit do not spin.
  - **On** - the fans on the top of the unit spin.

Boiler

This element represents a boiler, which heats water for the purpose of providing heat to a facility.

Figure 65: Boiler



The Boiler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the boiler's flame is not visible.
  - **On** - the boiler's flame is visible and animated.

Building

This element represents a building within a site or campus. This element also provides an attached status summary to display summarized status data for the building.

Figure 66: Building

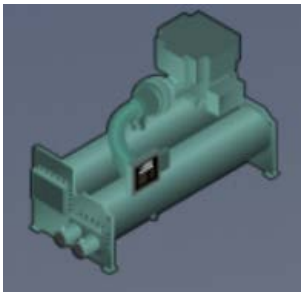
The Building element has the following runtime characteristics:

- When the Item List is bound to one or more Metasys items, the attached Status Summary displays all of its functionality. For information about Status Summary functionality, see *Status Summary*.
- If you configure a building to navigate to a Metasys item, and you do not have View permission for that item, the element is inactive. In all other cases, the entire geometry operates as a navigation hotspot. When you click the element, the graphic viewer navigates to the Metasys item or URL.
- The Ready Access Portal does not support navigation to an application.

Chiller

This element represents a chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 67: Chiller



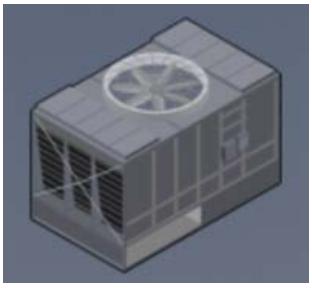
The Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's water pipes and pumps are visible.

Cooling Tower

This element represents a cooling tower, which removes heat from a building space by transferring process waste heat to the atmosphere.

Figure 68: Cooling Tower



The Cooling Tower element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the tower's internal components are not visible.
  - **On** - the tower's internal components are visible.

Diffuser - Round

This element represents a round diffuser, which functions as part of a room air distribution subsystem.

Figure 69: Diffuser - Round

The Diffuser - Round element has no runtime characteristics.

Diffuser - Square

This element represents a square diffuser, which functions as part of a room air distribution subsystem.

Figure 70: Diffuser - Square

The Diffuser - Square element has no runtime characteristics.

Fire Damper

This element represents a fire damper, which closes during the threat of a fire and keeps burning debris from passing through it into another area of a building. It also limits the amount of fresh air that can feed an existing fire.

Figure 71: Fire Damper

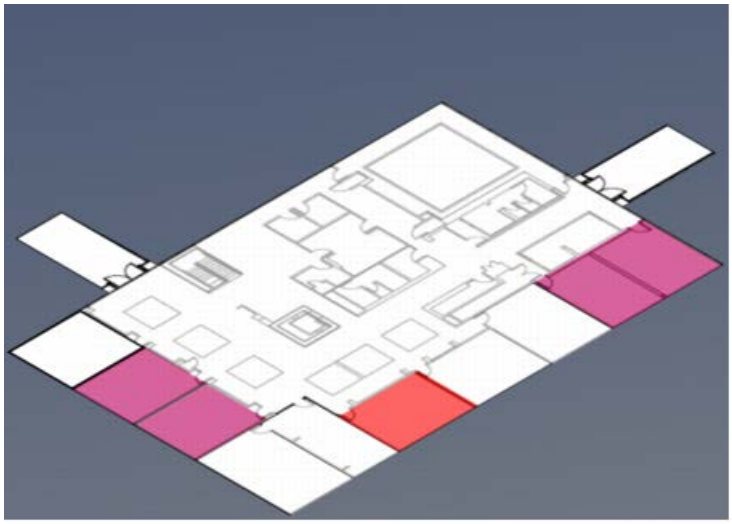
The Fire Damper element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Open** - the blades appear open.
  - **Closed** - the blades appear closed.

Floor

This element represents a floor. The element provides the user interface for displaying the background image, exterior walls, interior walls, and room statuses that make up a single floor (for information on how to customize a Floor element, refer to the Graphic Generation Tool *Help [LIT-12011697])*. This element also provides an attached status summary element to provide summarized status data for the floor.

Figure 72: Floor



The Floor element has the following runtime characteristics:

- When the attached Status Summary is bound to one or more Metasys items, the Status Summary displays all of its functionality. For information about Status Summary functionality, see *Status Summary*.
- When the Floor element contains one or more Room Status elements, each Room Status displays all of its functionality. For information about Room Status functionality, see *Room Status*.

Floor Group

This element represents a floor group within a site or campus. This element also provides an attached status summary to display summarized status data for the group of floors.

Figure 73: Floor Group

The Floor Group element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Status Summary displays all of its functionality. For information about Status Summary functionality, see *Status Summary*.
- If you configure a floor group to navigate to a Metasys item, and you do not have View permission for that item, the element is inactive. In all other cases, the entire geometry operates as a navigation hotspot. When you click the element, the graphic viewer navigates to the Metasys item or URL.
- The Ready Access Portal does not support navigation to an application.

Heat Exchanger

This element represents a heat exchanger, which consists of multiple, thin, slightly separated plates that have large surface areas and fluid flow passages that are used for heat transfer.

Figure 74: Heat Exchanger

The Heat Exchanger element has the following runtime characteristics:

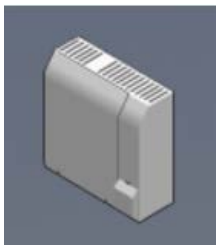
- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within **both** the Input Primary **and** Output Primary binding groups is:
  - **Off** - there is no hot and cold air flowing into and out of the exchanger.
  - **On** - hot (red) and cold (blue) air flows into and out of the exchanger.

Note: The value for both of these bindings needs to be **On** for the animation to run.

H-Stat

This element represents an h-stat device, which regulates the temperature of a system so that the system's temperature is maintained near a desired setpoint temperature.

Figure 75: H-Stat



The H-Stat element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

PRV

This element represents a Pressure Reducing Valve (PRV), which reduces pressure in water supply mains.

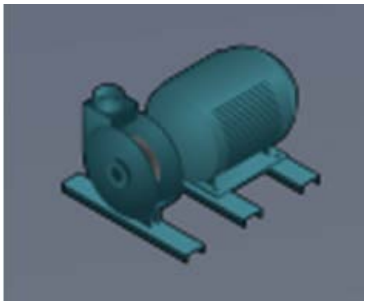
Figure 76: PRV

The PRV element has no runtime characteristics.

Pump

This element represents a water pump, which pumps large volumes of water to and from large pieces of equipment, such as chillers, boilers, heat exchangers, and cooling towers.

Figure 77: Pump



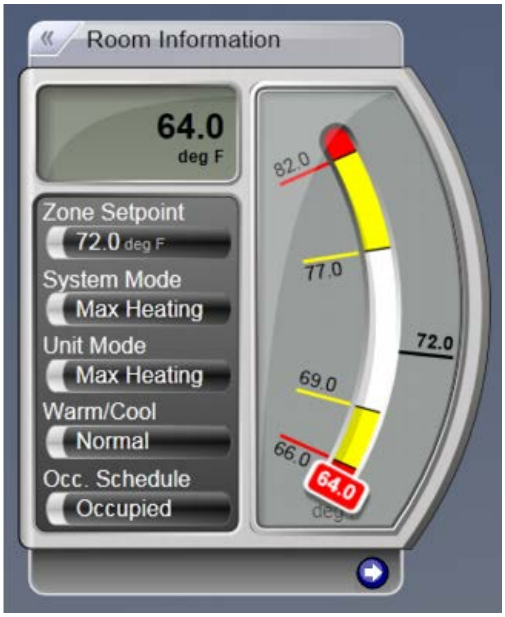
The Pump element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes displays all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The impellers spin in the direction configured in the Direction property.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.

Room Control Module (Multiple Rooms)

This element displays general room information (such as zone temperature, alarm limits, and setpoints) for the currently selected Room Status element in the graphic. This Room Control Module is different from the Room Control Module in that its values dynamically update based on the selected room within a floor.

Figure 78: Room Control Module (Multiple Rooms)



The Room Control Module (Multiple Rooms) element has the following runtime characteristics:

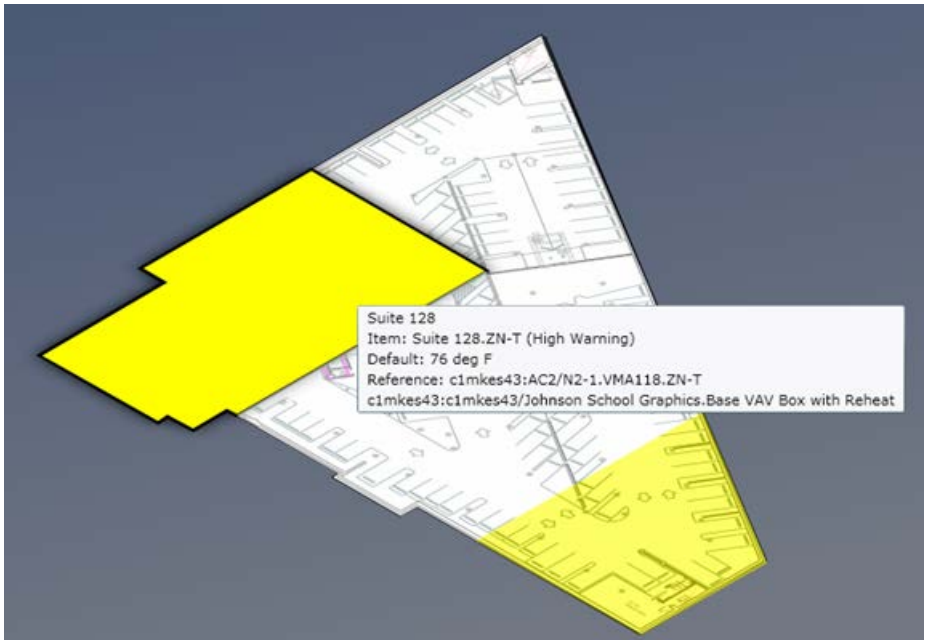
- It displays up to five Key Data Items for a room when you select that room's Room Status element. For information about the runtime characteristics of the key data items within the Room Control Module, see *Key Data Item*.
- It can be collapsed or expanded, but it cannot be resized.
- It can be moved to another location on the graphic.
- It displays the measurement units (for example, degrees Fahrenheit) for all displayed values.
- It contains a semicircular gauge that displays the following information for the selected Room Status (if configured and available): high and low alarm limits, cooling setpoint, heating setpoint, high and low warning limits, and common setpoint.
- It contains an LCD that displays the current value for the object bound in the selected Room Status element. Right-click the LCD to open the User Actions Panel for the Metasys item.
- When you place your cursor over one of the components of the Room Control Module, a tooltip displays the information for that component.
- It displays a User Actions Panel (with a right-click) when displayed within the Site Management Portal, SCT, or the Ready Access Portal. See *User Actions Panel*. On the Ready Access Portal, the types of objects you can navigate to are limited. In addition, when an Inline Command Box is bound to a schedule option, the User Actions Panel provides an Add a Temporary Override option.
- It displays a navigation icon (a right-pointing arrow in the lower-right corner of the module) when the selected Room Status element is configured with a navigation binding. Clicking that navigation icon takes you to the Metasys item, URL, or application that was configured for that Room Status. The Ready Access Portal does not support navigation to an application.
- It displays a warning icon with a message if the specified alarm is not configured or could not be found. The messages are:

  - `Alarm limits are unavailable. No Alarm information is configured.`
  - `Alarm limits are unavailable. Configured item could not be located. <alarm object name>`
- It displays a warning icon with a message if the Metasys item has misconfigured alarms or alarm limits. For example: `Alarm extension is not configured correctly. The High Warning limit is greater than or equal to the High Alarm limit.`

Room Status

This element uses color to represent the current status of a zone/room of a floor plan governed by a sensor (for example, temperature, humidity, lighting).

Figure 79: Room Status


Suite 128
Item: Suite 128.ZN-T (High Warning)
Default: 76 deg F
Reference: c1mkes43:AC2/N2-1.VMA118.ZN-T
c1mkes43:c1mkes43/Johnson School Graphics.Base VAV Box with Reheat

The Room Status element has the following runtime characteristics:

- The polygon portion of the room status is presented as configured (for example, shape, scale, position); however, the background fill and the border colors are determined by the status color (as defined within the system preferences for the Site) that corresponds to the status of the object represented by the primary value binding.
- If status information is not available (for example, the item no longer exists or the Room Status element appears in the SCT), the fill color represents the Value Inaccessible system preference color.
- When you place your cursor over the polygon portion of the room status, the polygon's color brightens to reflect the actual status color, and a tooltip displays the current status of the primary bound object.
- If a Room Status element resides on a graphic with a Room Control Module (Multiple Rooms):
  - Clicking the Room Status element selects that element and populates the Room Control Module.
  - Clicking the selected Room Status element again navigates you to the Metasys item, URL, or application you configured for the Room Status navigation binding.
- If there is no Room Control Module (Multiple Rooms) on the floor plan graphic, clicking the Room Status element navigates you to the Metasys item, URL, or application you configured for the Room Status navigation binding.

Status Summary

This element represents a status summary. The element provides the user interface for summarizing alarm, warning, and offline statuses for a list of Metasys item references.

Figure 80: Status Summary

Figure 81: Status Summary with Value Inaccessible Panel

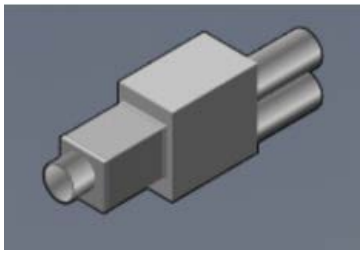
The Status Summary element has the following runtime characteristics:

- The element counts and displays the number of items with an Alarm, Warning, or Offline status.
- When you place your cursor over one of the statuses, a tooltip shows the number of items with an Alarm (includes items with an Alarm and Unreliable Alarm status), Warning, or Offline status.
- If the status of any of the bound Metasys items could not be retrieved, the element displays a Value Inaccessible panel beneath the statuses (*Figure 81*).
- If you configure a status summary with a Navigation binding, and you do not have View permission for that item, the element is inactive. In all other cases, the entire element operates as a navigation hotspot. When you click the element, the graphic viewer navigates to the Metasys item or URL.
- The Ready Access Portal does not support navigation to an application.

VAV - Dual Duct

This element represents a variable air volume device with a dual-duct assembly.

Figure 82: VAV - Dual Duct

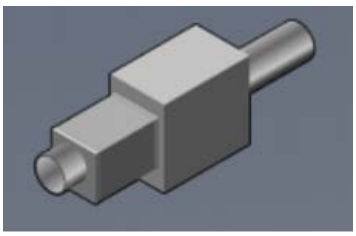


The VAV - Dual Duct element has no runtime characteristics.

VAV - Single Duct

This element represents a variable air volume device with a single-duct assembly.

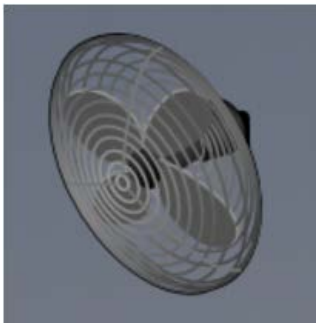
Figure 83: VAV - Single Duct



The VAV - Single Duct element has no runtime characteristics.

Wall Fan
This element represents a simple wall fan.

Figure 84: Wall Fan



The Wall Fan element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the fan blades do not spin.
  - **On** - the fan blades spin.

HVAC Air Coils

This Library category includes the following elements:

- *DX Coil*
- *Electric Coil*
- *Gas Coil*
- *Heating-Cooling Coil*
- *Integral Face and Bypass Coil*
- *Steam Humidifier*
- *Water Coil*

DX Coil

This element represents a DX coil, which functions exclusively for cooling air. A DX coil contains up to eight stages. Each stage is a separate Metasys object.

Figure 85: DX Coil

The DX Coil element has the following runtime characteristics:

For each of the eight DX stages, when the value of the Value binding is:

- **Off** - the cooling coil appears brown.
- **On** - the cooling coil appears blue.

Electric Coil

This element represents an electric coil, which functions exclusively for heating air. An electric coil contains up to eight heating coils. Each heating coil is a separate Metasys object.

Figure 86: Electric Coil

The Electric Coil element has the following runtime characteristics:

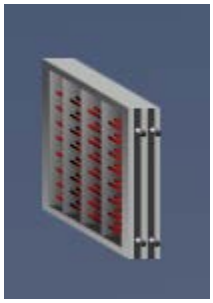
For each of the eight electric heating coils, when the value of the Value binding is:

- **Off** - the heating coil appears dark gray.
- **On** - the heating coil appears red/orange.

Gas Coil

This element represents a gas coil, which functions exclusively for gas air.

Figure 87: Gas Coil



The Gas Coil has the following runtime characteristics:

- **Off** - the heating coil appears dark gray.
- **On** - the heating coil appears red/orange.

Heating-Cooling Coil
This element represents a heating or cooling coil, which is used for heating or cooling air.

Figure 88: Heating-Cooling Coil

The Heating-Cooling Coil element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the current value of the Value binding within the Heating-Cooling Coil Primary group is:
  - **Closed** - none of the coils are animated.
  - **20% Open** - coils animate and one quarter of the coil box is colored.
  - **50% Open** - coils animate and one half of the coil box is colored.
  - **70% Open** - coils animate and three quarters of the coil box is colored.
  - **100% Open** - coils animate and the entire coil box is colored.
- The Mode binding within the Heating-Cooling Coil Secondary group supports two animations: summer and winter. If the coil is used for heating in the winter, the animated color inside the coil assembly is red. If the coil is used for cooling in the summer, the animated color inside the coil assembly is light blue.

Integral Face and Bypass Coil

This element represents an integral face and bypass coil, which alternates heating and bypass channels with face-and-bypass dampers before and after the coil.

Figure 89: Integral Face and Bypass Coil

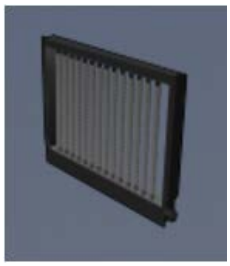
The Integral Face and Bypass Coil element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Face and Bypass Coil Primary binding group is:
  - **Closed** - none of the four pipes is animated.
  - **25% Open** - one of the four pipes is animated.
  - **50% Open** - two of the four pipes are animated.
  - **75% Open** - three of the four pipes are animated.
  - **100% Open** - all four pipes are animated.
- If the coil is used for heating, the animated pipes appear in red, while the non-animated pipes appear in brown.
- If the coil is used for cooling, the animated pipes appear in blue, while the non-animated pipes appear in brown.
- When the value of the Value binding within the Face and Bypass Damper Primary binding group is:
  - **0% Face** - the blades appear closed.
  - **25% Face** - the blades are one quarter open.
  - **50% Face** - the blades are half open.
  - **75% Face** - the blades are three quarters open.
  - **100% Face** - the blades are fully open.

Steam Humidifier

This element represents a steam humidifier, which functions as part of a duct system by pumping steam into the air passing inside an air duct.

Figure 90: Steam Humidifier



The Steam Humidifier element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Steam Humidifier Primary binding group is:
  - **Off** - there is no steam coming from the unit.
  - **25%** - there is some steam coming from the unit; it is largely transparent but still visible.
  - **50%** - additional steam is added to the animation; it is visibly thicker than the previous level.
  - **75%** - additional steam is added to the animation; it is visibly thicker than the previous level.
  - **100%** - the maximum amount of steam is coming from the unit.

Water Coil
This element represents a water coil, which is used for heating or cooling air.

Figure 91: Water Coil

The Water Coil element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Water Coil Primary binding group is:
  - **Closed** - none of the ten pipes is animated.
  - **10% Open** - one of the ten pipes is animated.
  - **20% Open** - two of the ten pipes are animated.
  - **30% Open** - three of the ten pipes are animated.
  - **40% Open** - four of the ten pipes are animated.
  - **50% Open** - five of the ten pipes are animated.
  - **60% Open** - six of the ten pipes are animated.
  - **70% Open** - seven of the ten pipes are animated.
  - **80% Open** - eight of the ten pipes are animated.
  - **90% Open** - nine of the ten pipes are animated.
  - **100% Open** - all ten pipes are animated.
- If the coil is used for heating, the animated pipes inside the coil appear in bright red, while the non-animated pipes appear in dark red.
- If the coil is used for cooling, the animated pipes inside the coil appear in bright blue, while the non-animated pipes appear in dark blue.

HVAC Air Sensors

This Library category includes the following elements:

- *Air Velocity*
- *Differential Pressure Sensor*
- *Differential Pressure Switch*
- *Duct CO2*
- *Duct Dew Point*
- *Duct Gas*
- *Duct Smoke Detector*
- *Duct Temperature and Humidity*
- *Duct Temperature Sensor*
- *Flow Meter*
- *Flow Switch*
- *Humidity Sensor*
- *Network Sensor*
- *Outside Air Temperature with Humidity*
- *Outside Air Temperature with Shield*
- *Outside Air Temperature with Shield II*
- *Rain Gauge Sensor*
- *Rain Signal*
- *Room CO2*
- *Room Pressure*
- *RS9100 Thermostat*
- *T4000 Thermostat*
- *TC9100 Thermostat*
- *TE6700 Thermostat*
- *Temperature Low Limit Sensor with Manual Reset*
- *TMZ Thermostat*
- *Weather Station*
- *Wind Direction*
- *Wind Gauge*

Air Velocity

This element represents an air velocity sensor, which measures the speed of the air inside an air duct.

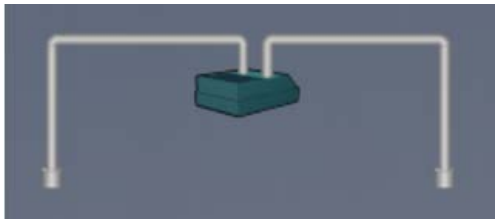
Figure 92: Air Velocity

The Air Velocity element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Differential Pressure Sensor

This element represents a differential pressure sensor, which measures air pressure at two locations and compares the two values.

Figure 93: Differential Pressure Sensor



The Differential Pressure Sensor element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Differential Pressure Switch

This element represents a differential pressure switch, which measures the air pressure inside an air duct and compares it to the air pressure outside the air duct.

Figure 94: Differential Pressure Switch

The Differential Pressure Switch element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Duct CO2

This element represents a duct CO_2 sensor, which monitors the level of carbon dioxide (CO_2) in an air duct.

Figure 95: Duct CO2

The Duct CO2 element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Duct Dew Point

This element represents a duct dew point sensor, which measures the dew point inside an air duct.

Figure 96: Duct Dew Point

The Duct Dew Point element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Duct Gas

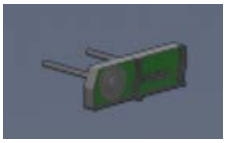
This element represents a duct gas sensor, which measures the amount of gas, such as carbon monoxide, that is inside an air duct.

Figure 97: Duct Gas

The Duct Gas element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Duct Smoke Detector
This element represents a duct smoke detector, which detects smoke inside an air duct.

Figure 98: Duct Smoke Detector



The Duct Smoke Detector element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Duct Temperature and Humidity

This element represents a duct temperature and humidity sensor, which measures both the air temperature and humidity of the air passing through an air duct.

Figure 99: Duct Temperature and Humidity

The Duct Temperature and Humidity element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Duct Temperature Sensor

This element (depicted in its two available configurations) represents a duct temperature sensor, which measures the air temperature inside an air duct.

Figure 100: Duct Temperature Sensor - Averaging

Figure 101: Duct Temperature Sensor - Bulb

The Duct Temperature Sensor element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Flow Meter

This element represents a flow meter, which measures the speed of air flowing through a duct in a defined time segment. This meter is also known as an air consumption meter.

Figure 102: Flow Meter

The Flow Meter element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Flow Switch
This element represents a flow switch, which measures the flow of air in a duct.

Figure 103: Flow Switch

The Flow Switch element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Humidity Sensor

This element represents a humidity sensor, which monitors the humidity of air passing through an air duct.

Figure 104: Humidity Sensor

The Humidity Sensor element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Network Sensor

This element represents a network sensor, which monitors the air temperature of a monitored space.

Figure 105: Network Sensor

The Network Sensor element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Outside Air Temperature with Humidity

This element represents an outside air temperature and humidity sensor, which measures both outside temperature (using a thermistor) and outside humidity (using a humidity transducer).

Figure 106: Outside Air Temperature with Humidity

The Outside Air Temperature with Humidity element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Outside Air Temperature with Shield

This element represents an outside air temperature sensor with a shield, which measures outside temperature (using a thermistor).

Figure 107: Outside Air Temperature with Shield

The Outside Air Temperature with Shield element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Outside Air Temperature with Shield II

This element represents an outside air temperature sensor with a shield, which measures outside temperature (using a thermistor).

Figure 108: Outside Air Temperature with Shield II

The Outside Air Temperature with Shield II element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Rain Gauge Sensor
This element represents a rain gauge sensor, which measures the amount of rain that has fallen.

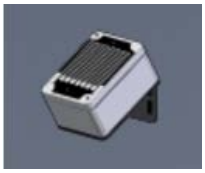
Figure 109: Rain Gauge Sensor

The Rain Gauge Sensor element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Rain Signal

This element represents a rain signal device, which indicates whether or not it is raining.

Figure 110: Rain Signal



The Rain Signal element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Room CO2

This element represents a room CO_2 sensor, which detects CO_2 levels in an area.

Figure 111: Room CO2

The Room CO2 element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Room Pressure

This element represents a room pressure sensor, which provides monitoring and alarming for critical low differential pressure applications (for example, hospital patient isolation wards, pharmaceutical manufacturing, semiconductor fabrication, cleanrooms, and research laboratories).

Figure 112: Room Pressure

The Room Pressure element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

RS9100 Thermostat

This element represents an RS9100 thermostat, which regulates the temperature of a room so that the room's temperature is maintained near a desired setpoint temperature.

Figure 113: RS9100 Thermostat

The RS9100 Thermostat element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

T4000 Thermostat

This element represents a T4000 thermostat, which regulates the temperature of a room so that the room's temperature is maintained near a desired setpoint temperature.

Figure 114: T4000 Thermostat

The T4000 Thermostat element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

TC9100 Thermostat

This element represents a TC9100 thermostat, which regulates the temperature of a room so that the room's temperature is maintained near a desired setpoint temperature.

Figure 115: TC9100 Thermostat

The TC9100 Thermostat element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

TE6700 Thermostat

This element represents a TE6700 thermostat, which regulates the temperature of a room so that the room's temperature is maintained near a desired setpoint temperature.

Figure 116: TE6700 Thermostat

The TE6700 Thermostat element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Temperature Low Limit Sensor with Manual Reset

This element represents a temperature low limit sensor with manual reset, which acts as a switch for an air handler once the temperature gets too low.

Figure 117: Temperature Low Limit Sensor with Manual Reset

The Temperature Low Limit Sensor with Manual Reset element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

TMZ Thermostat

This element represents a TMZ thermostat, which regulates the temperature of a room so that the room's temperature is maintained near a desired setpoint temperature.

Figure 118: TMZ Thermostat

The TMZ Thermostat element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Weather Station

This element represents a weather station, which consists of multiple air sensors in one assembly that measure various points of weather data, such as temperature, humidity, and wind speed.

Figure 119: Weather Station

The Weather Station element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Wind Speed Primary binding group is:
  - **Off** - the wind gauge does not spin.
  - **Low** - the wind gauge spins slowly.
  - **High** - the wind gauge spins fast.
- When the value of the Value binding within the Wind Direction binding group is:
  - **North** - the wind directional points north.
  - **Northeast** - the wind directional points northeast.
  - **East** - the wind directional points east.
  - **Southeast** - the wind directional points southeast.
  - **South** - the wind directional points south.
  - **Southwest** - the wind directional points southwest.
  - **West** - the wind directional points west.
  - **Northwest** - the wind directional points northwest.

Wind Direction
This element represents a wind direction sensor, which indicates the direction of the wind.

Figure 120: Wind Direction

The Wind Direction element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding is:
  - **North** - the wind directional points north.
  - **Northeast** - the wind directional points northeast.
  - **East** - the wind directional points east.
  - **Southeast** - the wind directional points southeast.
  - **South** - the wind directional points south.
  - **Southwest** - the wind directional points southwest.
  - **West** - the wind directional points west.
  - **Northwest** - the wind directional points northwest.

Wind Gauge
This element represents a wind gauge, which measures wind speed.

Figure 121: Wind Gauge

The Wind Gauge element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding is:
  - **Off** - the wind gauge does not spin.
  - **Low** - the wind gauge spins slowly.
  - **High** - the wind gauge spins fast.

HVAC Boilers

This Library category includes the following elements:

- *Cleaver-Brooks® Boiler*
- *Gas Head*
- *Gas Panel*
- *Generic Boiler*
- *Heating Manifold*
- *Murray® Boiler*
- *Pressure Unit*
- *Radiator*
- *Thermal Link*
- *Trane® Boiler*
- *Weil-McClain® Boiler*

Equipment Notification Bindings for HVAC Boiler Elements

The Equipment Notification panel displays at runtime when any of the bindings are triggered (for example, the value of the notification binding results in the animation being on).

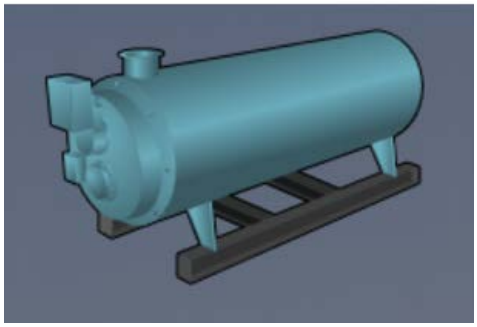
Figure 122: Example of an Equipment Notification Panel for a Boiler

Back to *HVAC Boilers* or *Library Elements* .

Cleaver-Brooks® Boiler

This element represents a Cleaver-Brooks boiler, which heats water for the purpose of providing heat.

Figure 123: Cleaver-Brooks Boiler



The Cleaver-Brooks Boiler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the boiler's flame is not visible.
  - **On** - the boiler's flame is visible and animated.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Gas Head

This element represents a gas head, which measures the quantity of gas used per unit time.

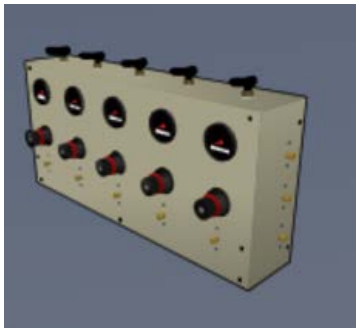
Figure 124: Gas Head

The Gas Head element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Gas Panel

This element represents a gas panel, which separates supply gas into smaller lines and disperses it throughout a system.

Figure 125: Gas Panel

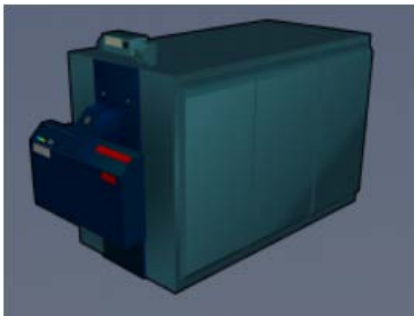


The Gas Panel element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Generic Boiler

This element represents a generic boiler, which heats water for the purpose of providing heat.

Figure 126: Generic Boiler



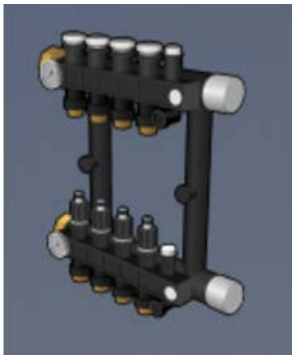
The Generic Boiler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the boiler's flame is not visible.
  - **On** - the boiler's flame is visible and animated.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Heating Manifold

This element represents a heating manifold, which uses supply water from a heat source, separates it into smaller lines, and disperses it throughout a radiant heat system.

Figure 127: Heating Manifold



The Heating Manifold element has no runtime characteristics.

Murray® Boiler

This element represents a Murray boiler, which heats water for the purpose of providing heat.

Figure 128: Murray Boiler

The Murray Boiler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the boiler's flame is not visible.
  - **On** - the boiler's flame is visible and animated.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Pressure Unit

This element represents a pressure unit, which measures the amount of pressure inside a gas pipe.

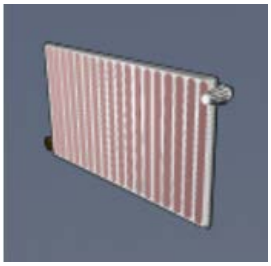
Figure 129: Pressure Unit

The Pressure Unit element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Radiator

This element represents a radiator, which provides heat to a building by circulating hot water or steam generated in a central boiler.

Figure 130: Radiator



The Radiator element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Thermal Link

This element represents a thermal link, which acts as a safety device in a boiler. If the boiler's temperature is too high, the thermal link melts and breaks a circuit.

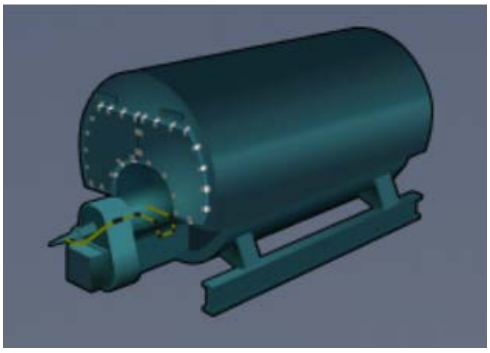
Figure 131: Thermal Link

The Thermal Link element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Trane® Boiler

This element represents a Trane boiler, which heats water for the purpose of providing heat.

Figure 132: Trane Boiler



The Trane Boiler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the boiler's flame is not visible.
  - **On** - the boiler's flame is visible and animated.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Weil-McClain® Boiler

This element represents a Weil-McClain boiler, which heats water for the purpose of providing heat.

Figure 133: Weil-McClain Boiler

The Weil-McClain Boiler element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the boiler's flame is not visible.
  - **On** - the boiler's flame is visible and animated.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

HVAC Chillers

This Library category includes the following elements:

- *Air-Cooled Chiller*
- *Carrier® Chiller*
- *Generic Chiller*
- *McQuay® Chiller*
- *Rooftop Ice Storage*
- *Trane® Chiller*
- *York® Chiller*

Equipment Notification Bindings for HVAC Chiller Elements

The Equipment Notification panel displays at runtime when any of the bindings are triggered (for example, the value of the notification binding results in the animation being on).

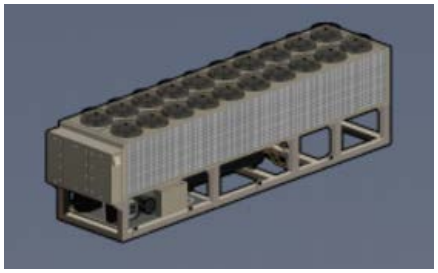
Figure 134: Example of an Equipment Notification Panel for a Chiller

Back to *HVAC Chillers* or *Library Elements* .

Air-Cooled Chiller

This element represents an air-cooled chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 135: Air-Cooled Chiller



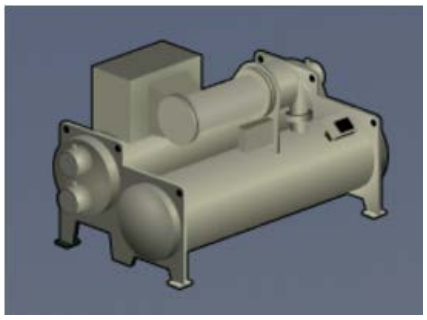
The Air-Cooled Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's internal components are visible; water moves through the pipes and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Carrier® Chiller

This element represents a Carrier chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 136: Carrier Chiller



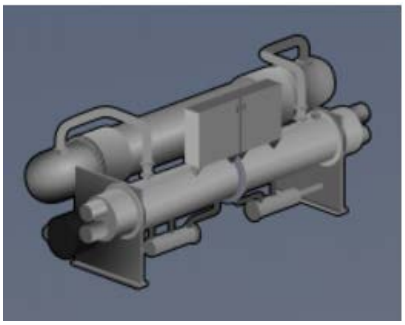
The Carrier Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's internal components are visible; water moves through the pipes and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Generic Chiller

This element represents a generic chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 137: Generic Chiller



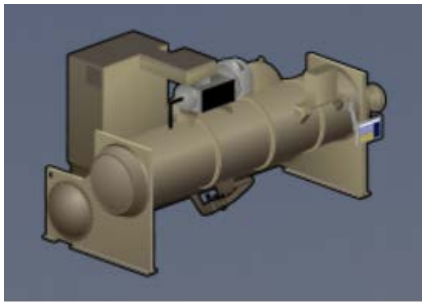
The Generic Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's internal components are visible; water moves through the pipes and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

McQuay® Chiller

This element represents a McQuay chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 138: McQuay Chiller



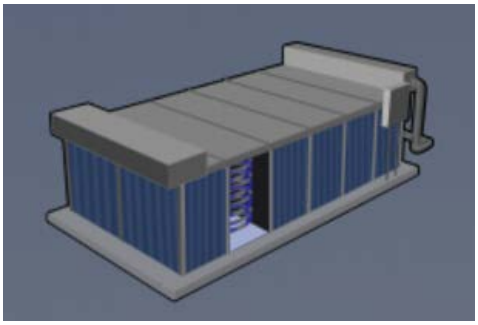
The McQuay Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's internal components are visible; water moves through the pipes and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

Rooftop Ice Storage

This element represents a rooftop ice storage unit, which creates ice at night and stores it during the day.

Figure 139: Rooftop Ice Storage



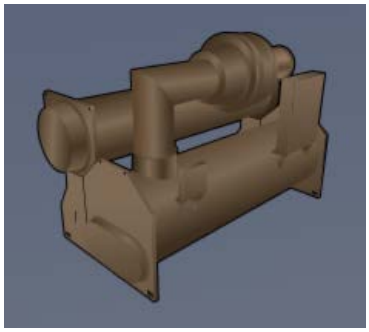
The Rooftop Ice Storage element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - water does not move through the coiled pipe inside the unit.
  - **On** - water moves through the coiled pipe inside the unit.
- When the value of the Value binding within the Level Primary binding group is:
  - **Empty** - the tank appears empty.
  - **25% Full** - the tank appears one quarter full.
  - **50% Full** - the tank appears half full.
  - **75% Full** - the tank appears three quarters full.
  - **100% Full** - the tank appears completely full.

Trane® Chiller

This element represents a Trane chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 140: Trane Chiller



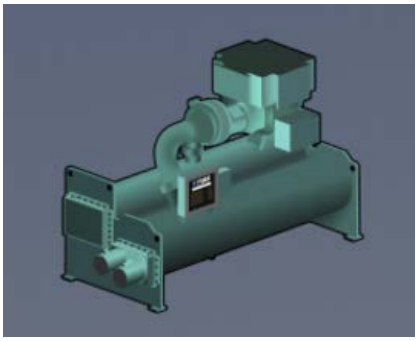
The Trane Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's internal components are visible; water moves through the pipes and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

York® Chiller

This element represents a York chiller, which removes heat from a liquid via a vapor-compression or absorption refrigeration cycle.

Figure 141: York Chiller



The York Chiller element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the chiller's internal components are not visible.
  - **On** - the chiller's internal components are visible; water moves through the pipes and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, Maintenance Switch, Lockout Switch) scrolls inside the alarm box.

HVAC Cooling Towers

This Library category includes the following elements:

- *Condenser Water Storage*
- *Draw Through Tower*
- *Generic Sump*
- *Push Through Tower*
- *Remote Sump Tower*

Equipment Notification Bindings for HVAC Cooling Towers Elements

The Equipment Notification panel displays at runtime when any of the bindings are triggered (for example, the value of the notification binding results in the animation being on).

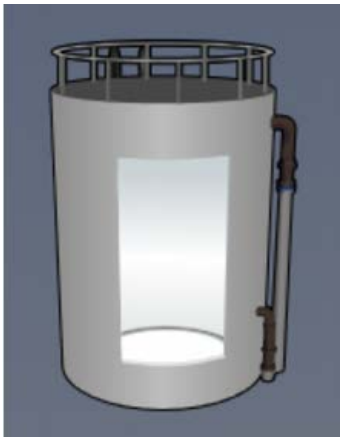
Figure 142: Example of an Equipment Notification Panel for a Cooling Tower

Back to *HVAC Cooling Towers* or *Library Elements* .

Condenser Water Storage

This element represents a condenser water storage unit, which stores re-circulated water used in a chiller.

Figure 143: Condenser Water Storage



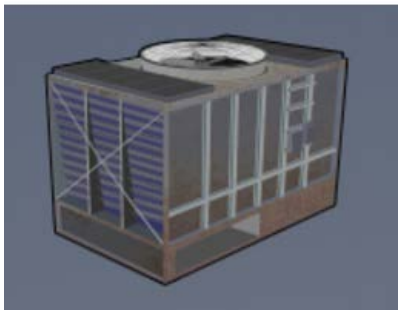
The Condenser Water Storage element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Tank Level Primary binding group is:
  - **Empty** - the tank appears empty.
  - **25% Full** - the tank appears one quarter full.
  - **50% Full** - the tank appears half full.
  - **75% Full** - the tank appears three quarters full.
  - **100% Full** - the tank appears completely full.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, High Level Alarm, Low Level Alarm) scrolls inside the alarm box.

Draw Through Tower

This element represents a draw through tower, which acts as a heat removal device by transferring process waste heat to the atmosphere.

Figure 144: Draw Through Tower



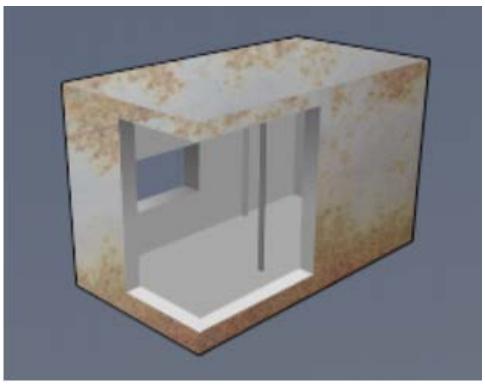
The Draw Through Tower element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the tower’s internal components are not visible.
  - **On** - the tower's internal components are visible; water mist sprays from the nozzles and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, High Level Alarm, Low Level Alarm) scrolls inside the alarm box.

Generic Sump

This element represents a generic sump unit, which stores excess water from a cooling tower.

Figure 145: Generic Sump



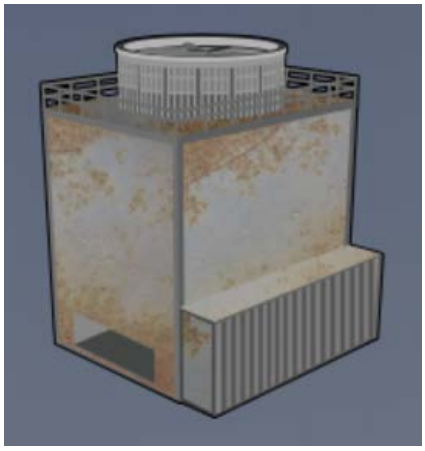
The Generic Sump element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Tank Level Primary binding group is:
  - **Empty** - the tank appears empty.
  - **25% Full** - the tank appears one quarter full.
  - **50% Full** - the tank appears half full.
  - **75% Full** - the tank appears three quarters full.
  - **100% Full** - the tank appears completely full.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, High Level Alarm, Low Level Alarm) scrolls inside the alarm box.

Push Through Tower

This element represents a push through tower, which acts as a heat removal device by transferring process waste heat to the atmosphere.

Figure 146: Push Through Tower



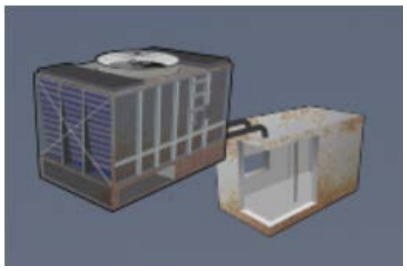
The Push Through Tower element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the tower’s internal components are not visible.
  - **On** - the tower's internal components are visible; water mist sprays from the nozzles and the impellers spin.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, High Level Alarm, Low Level Alarm) scrolls inside the alarm box.

Remote Sump Tower

This element represents a remote sump tower, which consists of a cooling tower with a remote sump tank attached to it. The remote sump tank stores excess water for the cooling tower.

Figure 147: Remote Sump Tower



The Remote Sump Tower element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the tower's internal components are not visible.
  - **On** - the tower's internal components are visible; water mist sprays from the nozzles and the impellers spin.
- When the value of the Value binding within the Tank Level Primary binding group is:
  - **Empty** - the tank appears empty.
  - **25% Full** - the tank appears one quarter full.
  - **50% Full** - the tank appears half full.
  - **75% Full** - the tank appears three quarters full.
  - **100% Full** - the tank appears completely full.
- When the value of any Equipment Notification binding is:
  - **Off** - the alarm box does not appear.
  - **On** - a yellow and black alarm box appears over the element and the Binding Name text (for example, High Level Alarm, Low Level Alarm) scrolls inside the alarm box.

HVAC Dampers

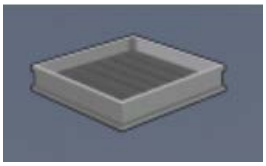
This Library category includes the following elements:

- *Horizontal Opposed Damper*
- *Horizontal Parallel Damper*
- *Horizontal Round Damper*
- *Vertical Opposed Damper*
- *Vertical Parallel Damper*

Horizontal Opposed Damper

This element represents a horizontal opposed damper, which contains pairs of blades that open/close in opposite directions from each other. This damper regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment.

Figure 148: Horizontal Opposed Damper



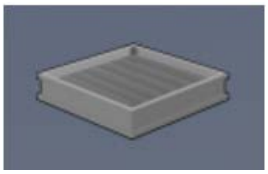
The Horizontal Opposed Damper element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Damper Primary binding group is:
  - **Closed** - the blades are closed.
  - **25% Open** - the blades are one quarter open.
  - **50% Open** - the blades are half open.
  - **75% Open** - the blades are three quarters open.
  - **100% Open** - the blades are completely open.

Horizontal Parallel Damper

This element represents a horizontal parallel damper, which contains blades that open/close parallel to each other. This damper regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment.

Figure 149: Horizontal Parallel Damper



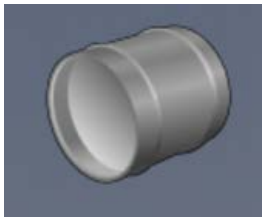
The Horizontal Parallel Damper element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Damper Primary binding group is:
  - **Closed** - the blades are closed.
  - **25% Open** - the blades are one quarter open.
  - **50% Open** - the blades are half open.
  - **75% Open** - the blades are three quarters open.
  - **100% Open** - the blades are completely open.

Horizontal Round Damper

This element represents a horizontal round damper, which contains a single plate that pivots at its midpoint to either open or close. This damper regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment.

Figure 150: Horizontal Round Damper



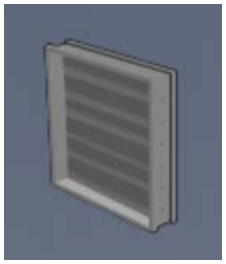
The Horizontal Round Damper element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Damper Primary binding group is:
  - **Closed** - the plate is closed.
  - **25% Open** - the plate is one quarter open.
  - **50% Open** - the plate is half open.
  - **75% Open** - the plate is three quarters open.
  - **100% Open** - the plate is completely open.

Vertical Opposed Damper

This element represents a vertical opposed damper, which contains pairs of blades that open/close in opposite directions from each other. This damper regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment.

Figure 151: Vertical Opposed Damper



The Vertical Opposed Damper element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Damper Primary binding group is:
  - **Closed** - the blades are closed.
  - **25% Open** - the blades are one quarter open.
  - **50% Open** - the blades are half open.
  - **75% Open** - the blades are three quarters open.
  - **100% Open** - the blades are completely open.

Vertical Parallel Damper

This element represents a vertical parallel damper, which contains blades that open/close parallel to each other. This damper regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment.

Figure 152: Vertical Parallel Damper

The Vertical Parallel Damper element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Damper Primary binding group is:
  - **Closed** - the blades are closed.
  - **25% Open** - the blades are one quarter open.
  - **50% Open** - the blades are half open.
  - **75% Open** - the blades are three quarters open.
  - **100% Open** - the blades are completely open.

HVAC Ductwork

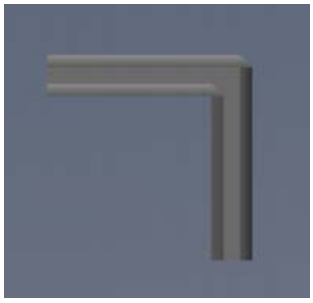
This Library category includes the following elements:

- *Down Left*
- *Down Right*
- *Dual Path Left*
- *Dual Path Right*
- *Energy Recovery Wheel*
- *Exhaust Down*
- *Exhaust Up*
- *Filter*
- *Four Way Duct*
- *Heat Cool Crossover*
- *Horizontal Duct*
- *Horizontal T Down*
- *Horizontal T Up*
- *Left Outlet*
- *Right Outlet*
- *Roof Vent Down*
- *Roof Vent Up*
- *Up Left*
- *Up Right*
- *UV Filter*
- *Vertical Duct*
- *Vertical T Left*
- *Vertical T Right*

Down Left

This element represents a down left duct (an elbow duct with one end extending leftward and the other end extending downward), which functions as part of a duct system to deliver and remove air.

Figure 153: Down Left



The Down Left element has no runtime characteristics.

Down Right

This element represents a down right duct (an elbow duct with one end extending rightward and the other end extending downward), which functions as part of a duct system to deliver and remove air.

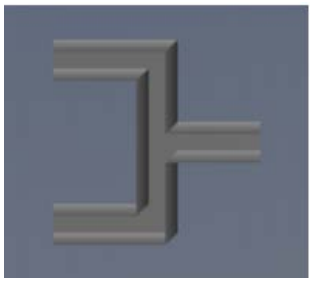
Figure 154: Down Right

The Down Right element has no runtime characteristics.

Dual Path Left

This element represents a dual path left duct (a horizontal duct with two ducts extending leftward and a single duct extending rightward), which functions as part of a duct system to deliver and remove air.

Figure 155: Dual Path Left

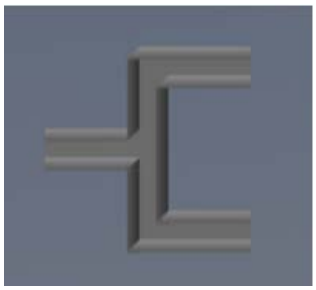


The Dual Path Left element has no runtime characteristics.

Dual Path Right

This element represents a dual path right duct (a horizontal duct with two ducts extending rightward and a single duct extending leftward), which functions as part of a duct system to deliver and remove air.

Figure 156: Dual Path Right



The Dual Path Right element has no runtime characteristics.

Energy Recovery Wheel

This element represents an energy recovery wheel, which uses the energy recovery process (exchanging the energy contained in normally exhausted building or space air) and treats the incoming outdoor ventilation air in residential and commercial HVAC systems. This device improves indoor air quality and reduces total HVAC equipment capacity.

Figure 157: Energy Recovery Wheel

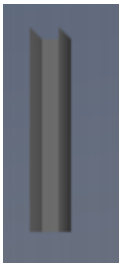
The Energy Recovery Wheel element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the wheel does not spin.
  - **On** - the wheel spins.

Exhaust Down

This element represents an exhaust down duct (a vertical duct that carries exhaust air downward), which functions as part of a duct system to deliver and remove air.

Figure 158: Exhaust Down

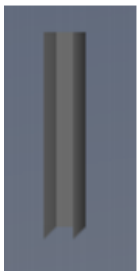


The Exhaust Down element has no runtime characteristics.

Exhaust Up

This element represents an exhaust up duct (a vertical duct that carries exhaust air upward), which functions as part of a duct system to deliver and remove air.

Figure 159: Exhaust Up

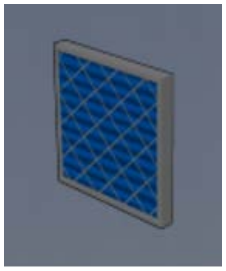


The Exhaust Up element has no runtime characteristics.

Filter

This element represents a filter, which functions as part of a duct system to remove particulates from the air passing through it in an air duct.

Figure 160: Filter



The Filter element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within the Filter Primary binding group is:
  - **Clean** - the filter appears blue.
  - **Dirty** - the filter appears gray.

Four Way Duct

This element represents a four way duct (a horizontal and vertical duct that intersect in the middle, with ends extending in four directions), which functions as part of a duct system to deliver and remove air.

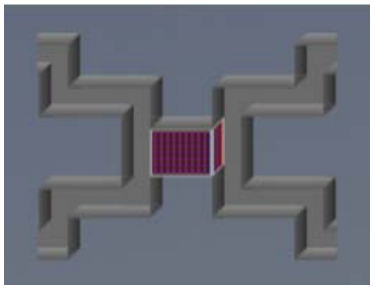
Figure 161: Four Way Duct

The Four Way Duct element has no runtime characteristics.

Heat Cool Crossover

This element represents a heat cool crossover device, which functions as a heat exchanger.

Figure 162: Heat Cool Crossover



The Heat Cool Crossover element has no runtime characteristics.

Horizontal Duct

This element represents a horizontal duct (carries supply or return air leftward or rightward), which functions as part of a duct system to deliver and remove air.

Figure 163: Horizontal Duct

The Horizontal Duct element has no runtime characteristics.

Horizontal T Down

This element represents a horizontal T down duct (a vertical and horizontal duct that intersect, with the horizontal duct on top and the vertical duct extending downward from its center, forming a T), which functions as part of a duct system to deliver and remove air.

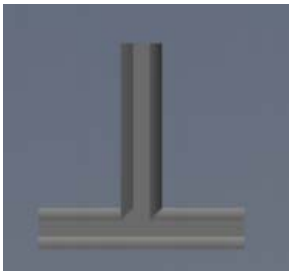
Figure 164: Horizontal T Down

The Horizontal T Down element has no runtime characteristics.

Horizontal T Up

This element represents a horizontal T up duct (a vertical and horizontal duct that intersect, with the horizontal duct on the bottom and the vertical duct extending upward from its center, forming an inverted T), which functions as part of a duct system to deliver and remove air.

Figure 165: Horizontal T Up



The Horizontal T Up element has no runtime characteristics.

Left Outlet

This element represents a left outlet duct, which functions as part of a duct system to deliver and remove air (for example, supply air [ventilation air], return air, and exhaust air). A duct system ensures acceptable indoor air quality, as well as thermal comfort.

Figure 166: Left Outlet

The Left Outlet element has no runtime characteristics.

Right Outlet

This element represents a right outlet duct, which functions as part of a duct system to deliver and remove air (for example, supply air [ventilation air], return air, and exhaust air). A duct system ensures acceptable indoor air quality, as well as thermal comfort.

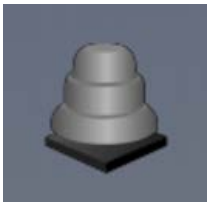
Figure 167: Right Outlet

The Right Outlet element has no runtime characteristics.

Roof Vent Down

This element represents a roof vent down duct, which functions as part of a duct system to deliver and remove air (for example, supply air [ventilation air], return air, and exhaust air). A duct system ensures acceptable indoor air quality, as well as thermal comfort.

Figure 168: Roof Vent Down

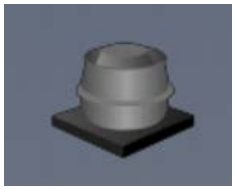


The Roof Vent Down element has no runtime characteristics.

Roof Vent Up

This element represents a roof vent up duct, which functions as part of a duct system to deliver and remove air (for example, supply air [ventilation air], return air, and exhaust air). A duct system ensures acceptable indoor air quality, as well as thermal comfort.

Figure 169: Roof Vent Up

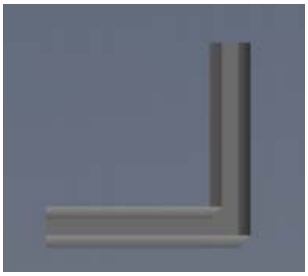


The Roof Vent Up element has no runtime characteristics.

Up Left

This element represents an up left duct (an elbow duct with one end extending leftward and the other end extending upward), which functions as part of a duct system to deliver and remove air.

Figure 170: Up Left



The Up Left element has no runtime characteristics.

Up Right

This element represents an up right duct (an elbow duct with one end extending upward and the other end extending rightward), which functions as part of a duct system to deliver and remove air.

Figure 171: Up Right

The Up Right element has no runtime characteristics.

UV Filter

This element represents an ultraviolet (UV) filter, which functions as part of a duct system. This filter uses UV light to kill mold, bacteria, and viruses in the air passing through it in an air duct.

Figure 172: UV Filter

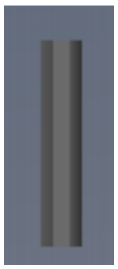
The UV Filter element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the bulbs appear darkened.
  - **On** - the bulbs appear illuminated.

Vertical Duct

This element represents a vertical duct (carries supply or return air upward or downward), which functions as part of a duct system to deliver and remove air.

Figure 173: Vertical Duct

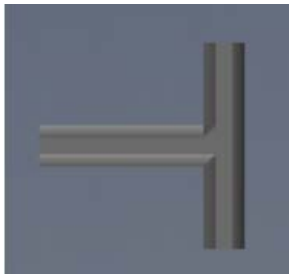


The Vertical Duct element has no runtime characteristics.

Vertical T Left

This element represents a vertical T left duct (a vertical and horizontal duct that intersect, with the vertical duct on the right and the horizontal duct extending leftward from its center), which functions as part of a duct system to deliver and remove air.

Figure 174: Vertical T Left

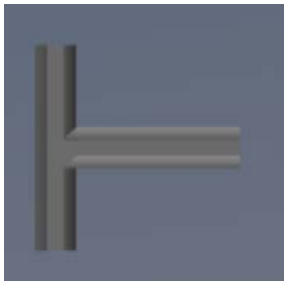


The Vertical T Left element has no runtime characteristics.

Vertical T Right

This element represents a vertical T right duct (a vertical and horizontal duct that intersect, with the vertical duct on the left and the horizontal duct extending rightward from its center), which functions as part of a duct system to deliver and remove air.

Figure 175: Vertical T Right



The Vertical T Right element has no runtime characteristics.

HVAC Fans

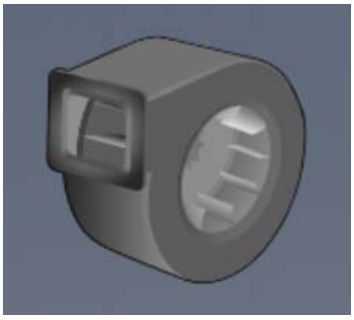
This Library category includes the following elements:

- *Return Fan*
- *Supply Fan*

Return Fan

This element represents a return fan, which pumps return air through an HVAC system.

Figure 176: Return Fan



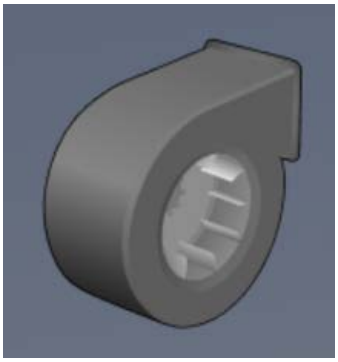
The Return Fan element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The color of the fan blades reflects the current value of the Return Fan Status item (for example, stopped or running) as defined by the Fan Status section within Metasys system preferences. By default, green indicates a running fan and red a stopped fan. However, if the status of the item is not normal (for example, offline), the color of the fan blades reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a non-normal item supersedes the fan status color.
- When the value of the Status binding is:
  - **Off** - the fan blades do not spin.
  - **On** - the fan blades spin.

Supply Fan

This element represents a supply fan, which pumps supply air through an HVAC system.

Figure 177: Supply Fan



The Supply Fan element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The color of the fan blades reflects the current value of the Supply Fan Status item (for example, stopped or running) as defined by the Fan Status section within Metasys system preferences. By default, green indicates a running fan and red a stopped fan. However, if the status of the item is not normal (for example, offline), the color of the fan blades reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a non-normal item supersedes the fan status color.
- When the value of the Status binding is:
  - **Off** - the fan blades do not spin.
  - **On** - the fan blades spin.

HVAC Heat Exchangers

This Library category includes the following elements:

- *Plate Exchanger*
- *Shell Exchanger*

Plate Exchanger

This element represents a plate exchanger, which consists of multiple, thin, slightly separated plates that have large surface areas and fluid flow passages that are used for heat transfer.

Figure 178: Plate Exchanger

The Plate Exchanger element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within **both** the Input Primary **and** Output Primary binding groups is:
  - **Off** - there is no hot and cold air flowing into and out of the exchanger.
  - **On** - hot (red) and cold (blue) air flows into and out of the exchanger.

Shell Exchanger

This element represents a shell exchanger, which consists of a series of tubes - one set of tubes contains the fluid that must be heated or cooled, and the second set contains the fluid that runs over the tubes that are being heated or cooled so that it can either provide the heat or absorb the heat required.

Figure 179: Shell Exchanger

The Shell Exchanger element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding within **both** the Input Primary **and** Output Primary binding groups is:
  - **Off** - the exchanger's internal components are not visible.
  - **On** - the exchanger's internal components are visible; air moves through the pipes.

HVAC Meters

This Library category includes the following elements:

- *Electric Meter*
- *Gas Meter*
- *Heat Meter*
- *Steam Meter*
- *Water Meter*

Electric Meter

This element represents an electric meter, which measures both electricity consumption and electricity demand.

Figure 180: Electric Meter

The Electric Meter element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Gas Meter

This element represents a gas meter, which measures gas consumption.

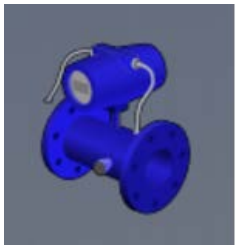
Figure 181: Gas Meter

The Gas Meter element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Heat Meter

This element represents a heat meter, which measures the temperature of steam inside a pipe.

Figure 182: Heat Meter



The Heat Meter element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Steam Meter
This element represents a steam meter, which measures steam consumption.

Figure 183: Steam Meter

The Steam Meter element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Water Meter
This element represents a water meter, which measures water consumption.

Figure 184: Water Meter

The Water Meter element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

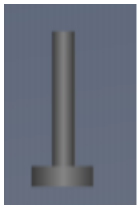
HVAC Pipes

This Library category includes the following elements:

- *Blind Flange*
- *Down-Left Elbow*
- *Down-Right Elbow*
- *Horizontal Pipe*
- *Pipe Connector*
- *Small Blind Flange*
- *Small Down-Left Elbow*
- *Small Down-Right Elbow*
- *Small Horizontal Pipe*
- *Small Pipe Connector*
- *Small Up-Left Elbow*
- *Small Up-Right Elbow*
- *Small Vertical Pipe*
- *Up-Left Elbow*
- *Up-Right Elbow*
- *Vertical Pipe*

Blind Flange
This element represents a blind flange, which is used to close the end of a pipe.

Figure 185: Blind Flange



The Blind Flange element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Down-Left Elbow

This element represents a down-left elbow pipe (one end extends leftward and the other end extends downward).

Figure 186: Down-Left Elbow

The Down-Left Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Down-Right Elbow

This element represents a down-right elbow pipe (one end extends rightward and the other end extends downward).

Figure 187: Down-Right Elbow

The Down-Right Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Horizontal Pipe
This element represents a horizontal pipe.

Figure 188: Horizontal Pipe

The Horizontal Pipe element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

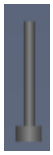
Pipe Connector
This element represents a pipe connector.

Figure 189: Pipe Connector

The Pipe Connector element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Blind Flange
This element represents a small blind flange, which is used to close the end of a pipe.

Figure 190: Small Blind Flange



The Small Blind Flange element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Down-Left Elbow

This element represents a small down-left elbow pipe (one end extends leftward and the other end extends downward).

Figure 191: Small Down-Left Elbow

The Small Down-Left Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Down-Right Elbow
This element represents a small down-right elbow pipe (one end extends rightward and the other end extends downward).

Figure 192: Small Down-Right Elbow

The Small Down-Right Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Horizontal Pipe
This element represents a small horizontal pipe.

Figure 193: Small Horizontal Pipe

The Small Horizontal Pipe element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Pipe Connector
This element represents a small pipe connector.

Figure 194: Small Pipe Connector

The Small Pipe Connector element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Up-Left Elbow
This element represents a small up-left elbow pipe (one end extends leftward and the other end extends upward).

Figure 195: Small Up-Left Elbow

The Small Up-Left Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Up-Right Elbow

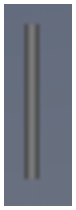
This element represents a small up-right elbow pipe (one end extends rightward and the other end extends upward).

Figure 196: Small Up-Right Elbow

The Small Up-Right Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Small Vertical Pipe
This element represents a small vertical pipe.

Figure 197: Small Vertical Pipe



The Small Vertical Pipe element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Up-Left Elbow
This element represents an up-left elbow pipe (one end extends leftward and the other end extends upward).

Figure 198: Up-Left Elbow

The Up-Left Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

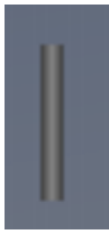
Up-Right Elbow
This element represents an up-right elbow pipe (one end extends rightward and the other end extends upward).

Figure 199: Up-Right Elbow

The Up-Right Elbow element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

Vertical Pipe
This element represents a vertical pipe.

Figure 200: Vertical Pipe



The Vertical Pipe element has the following runtime characteristic: it appears in the color set in the Pipe Type property.

HVAC Water Pumps

This Library category includes the following elements:

- *Booster Pump Set*
- *Right Horizontal Pump*
- *Vertical Motor Pump*
- *Vertical Pump*
- *Vertical/Horizontal Pump*

Booster Pump Set

This element represents a booster pump set, which pumps large volumes of water to and from pieces of equipment such as chillers, boilers, heat exchangers, and cooling towers.

Figure 201: Booster Pump Set

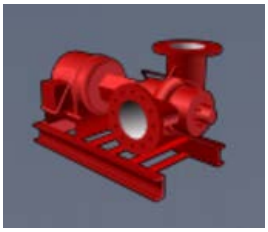
The Booster Pump Set element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The impellers spin in the direction set in the Direction property.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.

Right Horizontal Pump

This element represents a right horizontal pump, which pumps large volumes of water to and from pieces of equipment such as chillers, boilers, heat exchangers, and cooling towers.

Figure 202: Right Horizontal Pump



The Right Horizontal Pump element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The impellers spin in the direction set in the Direction property.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.

Vertical Motor Pump

This element represents a vertical motor pump, which pumps large volumes of water to and from pieces of equipment such as chillers, boilers, heat exchangers, and cooling towers.

Figure 203: Vertical Motor Pump

The Vertical Motor Pump element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The impellers spin in the direction set in the Direction property.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.

Vertical Pump

This element represents a vertical pump, which pumps large volumes of water to and from pieces of equipment such as chillers, boilers, heat exchangers, and cooling towers.

Figure 204: Vertical Pump

The Vertical Pump element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The impellers spin in the direction set in the Direction property.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.

Vertical/Horizontal Pump

This element represents a vertical/horizontal pump, which pumps large volumes of water to and from pieces of equipment such as chillers, boilers, heat exchangers, and cooling towers.

Figure 205: Vertical/Horizontal Pump

The Vertical/Horizontal Pump element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The impellers spin in the direction set in the Direction property.
- When the value of the Status binding is:
  - **Off** - the impellers do not spin.
  - **On** - the impellers spin.

HVAC Water Sensors

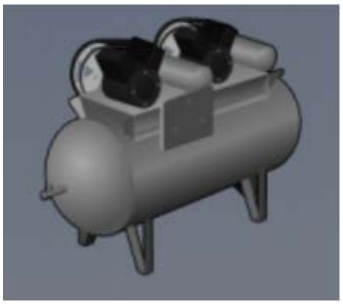
This Library category includes the following elements:

- *Air Compressor*
- *Alphasonic Level*
- *Condensation Sensor*
- *Deaerator*
- *Differential Pressure*
- *Emergency Push Button*
- *Flow Orifice*
- *Flow Paddle Wheel*
- *Flow Switch*
- *Flow Ultrasonic*
- *Flow Venturi*
- *Horizontal Level Switch*
- *Pipe Heat Tape*
- *Pressure - Single*
- *Temp Strap-on*
- *Ultrasonic Level*
- *Vertical Level Switch*
- *Vessel*
- *Well Temperature*

Air Compressor

This element represents an air compressor, which compresses air for heavy duty use and stores air for future use.

Figure 206: Air Compressor



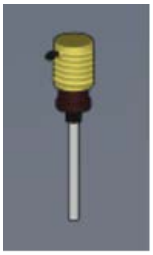
The Air Compressor element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the electric motors do not spin.
  - **On** - the electric motors spin.

Alphasonic Level

This element represents an alphasonic level sensor, which measures the rate of water flow inside a pipe.

Figure 207: Alphasonic Level



The Alphasonic Level element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Condensation Sensor
This element represents a condensation sensor, which measures water condensation.

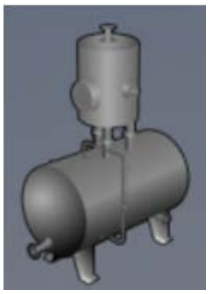
Figure 208: Condensation Sensor

The Condensation Sensor element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Deaerator

This element represents a deaerator, which removes air and other dissolved gases from the feedwater to steam-generating boilers. This device reduces corrosion damage in steam systems.

Figure 209: Deaerator



The Deaerator element has no runtime characteristics.

Differential Pressure

This element represents a differential pressure sensor, which measures the difference in water pressure between two parts of a pipe.

Figure 210: Differential Pressure

The Differential Pressure element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Emergency Push Button

This element represents an emergency push button, which acts to immediately shut down equipment in the case of an emergency.

Figure 211: Emergency Push Button

The Emergency Push Button element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Flow Orifice

This element represents a flow orifice sensor, which measures the rate of water flow inside a pipe.

Figure 212: Flow Orifice

The Flow Orifice element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Flow Paddle Wheel
This element represents a flow paddle wheel sensor, which measures the rate of water flow inside a pipe.

Figure 213: Flow Paddle Wheel

The Flow Paddle Wheel element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Value binding is:
  - **Off** - the small paddles at the bottom of the element do not spin.
  - **On** - the small paddles at the bottom of the element spin.

Flow Switch

This element represents a flow switch, which monitors flow and sends a trip signal to another device, such as a pump, to protect it.

Figure 214: Flow Switch

The Flow Switch element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Flow Ultrasonic

This element represents a flow ultrasonic sensor, which measures the rate of water flow inside a pipe.

Figure 215: Flow Ultrasonic

The Flow Ultrasonic element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Flow Venturi

This element represents a flow Venturi sensor, which measures the rate of water flow inside a pipe.

Figure 216: Flow Venturi

The Flow Venturi element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Horizontal Level Switch

This element represents a horizontal level switch, which acts as a switch when a buoy rises to a certain level.

Figure 217: Horizontal Level Switch

The Horizontal Level Switch element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Pipe Heat Tape

This element represents pipe heat tape, which functions as an electric heating element that is taped around water pipes to prevent them from freezing.

Figure 218: Pipe Heat Tape

The Pipe Heat Tape element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Status binding is:
  - **Off** - the electric heating coils do not glow (they appear dark gray).
  - **On** - the electric heating coils glow (they appear red/orange).

Pressure - Single

This element represents a single-pressure sensor, which measures the water pressure inside a pipe.

Figure 219: Pressure - Single

The Pressure - Single element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Temp Strap-on

This element represents a temperature strap-on sensor, which measures the temperature of water inside a pipe.

Figure 220: Temp Strap-on

The Temp Strap-on element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Ultrasonic Level

This element represents an ultrasonic level sensor, which measures the level of water flow inside a tank.

Figure 221: Ultrasonic Level

The Ultrasonic Level element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

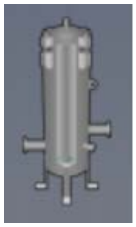
Vertical Level Switch
This element represents a vertical level switch, which acts as a switch when a buoy rises to a certain level.

Figure 222: Vertical Level Switch

The Vertical Level Switch element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Vessel
This element represents a vessel, which functions as a temporary storage tank for water.

Figure 223: Vessel



The Vessel element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Level binding is:
  - **Empty** - the vessel appears empty.
  - **25% Full** - the vessel appears one quarter full.
  - **50% Full** - the vessel appears half full.
  - **75% Full** - the vessel appears three quarters full.
  - **100% Full** - the vessel appears completely full.

Well Temperature

This element represents a well temperature sensor, which measures the temperature of water inside a pipe.

Figure 224: Well Temperature

The Well Temperature element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

HVAC Water Valves

This Library category includes the following elements:

- *Check Valve*
- *Hand Valve, 2-Way*
- *Hand Valve, 3-Way*
- *Large Valve, 2-Way Electric*
- *Large Valve, 2-Way Pneumatic*
- *Large Valve, 3-Way Electric*
- *Large Valve, 3-Way Pneumatic*
- *Manual Valve*
- *Small Valve, 2-Way Electric*
- *Small Valve, 2-Way Pneumatic*
- *Small Valve, 3-Way Electric*
- *Small Valve, 3-Way Pneumatic*
- *Tap*

Check Valve
This element represents a check valve, which works automatically to allow fluid (liquid or gas) to flow through it in only one direction.

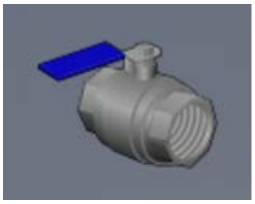
Figure 225: Check Valve

The Check Valve element has no runtime characteristics.

Hand Valve, 2-Way

This element represents a two-way hand valve, which acts as a simple hand valve for controlling water flow.

Figure 226: Hand Valve, 2-Way



The Hand Valve, 2-Way element has no runtime characteristics.

Hand Valve, 3-Way
This element represents a three-way hand valve, which acts as a simple hand valve for controlling water flow.

Figure 227:

The Hand Valve, 3-Way element has no runtime characteristics.

Large Valve, 2-Way Electric
This element represents a large, two-way electric valve, which opens or closes to control the flow of water.

Figure 228: Large Valve, 2-Way Electric

The Large Valve, 2-Way Electric element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Command binding is:
  - **Closed** - the disk in the valve completely obstructs water flow.
  - **50% Open** - the disk in the valve is 50% open.
  - **100% Open** - the disk in the valve is 100% open.

Large Valve, 2-Way Pneumatic
This element represents a large, two-way pneumatic valve, which opens or closes to control the flow of water.

Figure 229: Large Valve, 2-Way Pneumatic

The Large Valve, 2-Way Pneumatic element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Command binding is:
  - **Closed** - the disk in the valve completely obstructs water flow.
  - **50% Open** - the disk in the valve is 50% open.
  - **100% Open** - the disk in the valve is 100% open.

Large Valve, 3-Way Electric

This element represents a large, three-way electric valve, which allows water to come in from two directions simultaneously, and leave through one end.

Figure 230: Large Valve, 3-Way Electric

The Large Valve, 3-Way Electric element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Command binding is:
  - **Closed** - the disk in the supply valve (the valve on the right) completely obstructs the water flow and the disk in the recirculation valve (the valve on the left) is 100% open.
  - **50% Open** - the disks in both of the valves are 50% open.
  - **100% Open** - the disk in the supply valve is 100% open and the disk in the recirculation valve completely obstructs the water flow.

Large Valve, 3-Way Pneumatic

This element represents a large, three-way pneumatic valve, which allows water to come in from two directions simultaneously, and leave through one end.

Figure 231: Large Valve, 3-Way Pneumatic

The Large Valve, 3-Way Pneumatic element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Command binding is:
  - **Closed** - the disk in the supply valve (the valve on the right) completely obstructs the water flow and the disk in the recirculation valve (the valve on the left) is 100% open.
  - **50% Open** - the disks in both of the valves are 50% open.
  - **100% Open** - the disk in the supply valve is 100% open and the disk in the recirculation valve completely obstructs the water flow.

Manual Valve

This element represents a manual valve, which opens or closes by manual turning of a large handle attached to the actuator.

Figure 232: Manual Valve

The Manual Valve element has no runtime characteristics.

Small Valve, 2-Way Electric

This element represents a small, two-way electric valve, which controls the flow of water. This device functions as a subcomponent for coil assemblies, allowing water to come in from one end and flow out of the other end.

Figure 233: Small Valve, 2-Way Electric

The Small Valve, 2-Way Electric element has the following runtime characteristics:

- The element appears in the orientation set in the Orientation property.
- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Small Valve, 2-Way Pneumatic

This element represents a small, two-way pneumatic valve, which controls the flow of water. This device functions as a subcomponent for coil assemblies, allowing water to come in from one end and flow out of the other end.

Figure 234: Small Valve, 2-Way Pneumatic

The Small Valve, 2-Way Pneumatic element has the following runtime characteristics:

- The element appears in the orientation set in the Orientation property.
- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Small Valve, 3-Way Electric

This element represents a small, three-way electric valve, which controls the flow of water. This device functions as a subcomponent for coil assemblies, allowing water to come in from two directions simultaneously and leave through one end.

Figure 235: Small Valve, 3-Way Electric

The Small Valve, 3-Way Electric element has the following runtime characteristics:

- The element appears in the orientation set in the Orientation property.
- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Small Valve, 3-Way Pneumatic

This element represents a small, three-way pneumatic valve, which controls the flow of water. The valve allows water to come in from two directions simultaneously and leave through one end.

Figure 236: Small Valve, 3-Way Pneumatic

The Small Valve, 3-Way Pneumatic element has the following runtime characteristics:

- The element appears in the orientation set in the Orientation property.
- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Tap

This element represents a tap, which acts as a simple hand valve for releasing water from pipes prior to maintenance.

Figure 237: Tap

The Tap element has no runtime characteristics.

Lighting

This Library category includes the following elements:

- *Day Sensor*
- *Emergency Light Fixture*
- *Light Switch*
- *Lighting Fixture*
- *Motion Sensor*

Day Sensor

This element (depicted in its three available shapes) represents a day sensor, which allows a lighting control system to automatically dim lights when available daylight is high, and brighten lights when available daylight is low.

Figure 238: Day Sensor

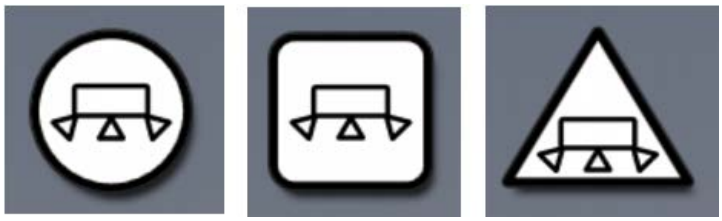
The Day Sensor element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.
- When the value of the Value binding is:
  - **Off** - the element appears in the color set in the Off Color property.
  - **On** - the element appears in the color set in the On Color property.

Emergency Light Fixture

This element (depicted in its three available shapes) represents an emergency light fixture, which turns light on automatically when a building experiences a power outage.

Figure 239: Emergency Light Fixture



The Emergency Light Fixture element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.
- When the value of the Value binding is:
  - **Off** - the element appears in the color set in the Off Color property.
  - **On** - the element appears in the color set in the On Color property.

Light Switch
This element (depicted in its three available shapes) represents a light switch, which turns a light on or off.

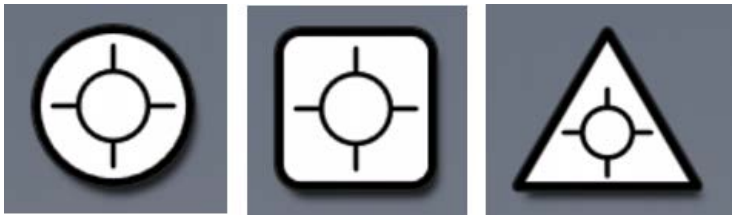
Figure 240: Light Switch

The Light Switch element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.
- When the value of the Value binding is:
  - **Off** - the element appears in the color set in the Off Color property.
  - **On** - the element appears in the color set in the On Color property.

Lighting Fixture
This element (depicted in its three available shapes) represents a lighting fixture, such as a common fluorescent light fixture.

Figure 241: Lighting Fixture



The Lighting Fixture element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.
- When the value of the Value binding is:
  - **Off** - the element appears in the color set in the Off Color property.
  - **On** - the element appears in the color set in the On Color property.

Motion Sensor

This element (depicted in its three available shapes) represents a motion sensor, which controls electric lighting in indoor spaces based on the amount of motion detected.

Figure 242: Motion Sensor

The Motion Sensor element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.
- When the value of the Value binding is:
  - **Off** - the element appears in the color set in the Off Color property.
  - **On** - the element appears in the color set in the On Color property.

Network

This Library category includes the following elements:

- *ADS/X*
- *AHU*
- *DC (Digital Controller)*
- *DT (Digital Terminal)*
- *DX*
- *FEC (Gen 1)*
- *FEC (Gen 2)*
- *FX*
- *IU*
- *LDT*
- *MIG*
- *MIG (Old)*
- *N2R*
- *N30*
- *NAE/NIE - 55 series*
- *NAE35/45/NCM45*
- *NCM*
- *NT*
- *Server*
- *TC (Terminal Controller)*
- *TEC*
- *UNT*
- *UPS*
- *VMA1400*
- *VMA1600*
- *VND*
- *XT/XTM*

ADS/X

This element represents an Application and Data Server (ADS) or Extended Application and Data Server (ADX). The ADS allows you to expand beyond the site management capabilities, number of connections limitations, and historical data storage limits of Network Automation Engines (NAEs)/Network Integration Engines (NIEs). The ADX allows you to expand beyond the capabilities of the ADS.

Figure 243: ADS/X

The ADS/X element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

AHU

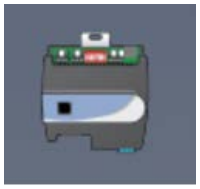
This element represents an AHU, which is also referred to as an air handler controller.

Figure 244: AHU

The AHU element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

DC (Digital Controller)
This element represents a Digital Controller (DC), which is used as a generic controller, not a Johnson Controls controller.

Figure 245: DC (Digital Controller)



The DC (Digital Controller) element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

DT (Digital Terminal)

This element represents a Digital Terminal (DT), which provides a terminal interface to a controller or a network.

Figure 246: DT (Digital Terminal)

The DT (Digital Terminal) element has no runtime characteristics.

DX

This element represents an Extended Digital Controller (DX), which is used for multiple chiller or boiler plant control applications, for the HVAC process of air handling units, or for distributed lighting and related electrical equipment control applications. The DX provides precise direct digital control (DDC) as well as programmed logic control.

Figure 247: DX

The DX element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

FEC (Gen 1)

This element represents a first-generation Field Equipment Controller (FEC), which is a programmable digital controller that communicates via the BACnet® Master-Slave/Token-Passing (MS/TP) protocol.

Figure 248: FEC (Gen 1)

The FEC (Gen 1) element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

FEC (Gen 2)
This element represents a second-generation FEC, which is a programmable digital controller that communicates via the BACnet MSTP protocol.

Figure 249: FEC (Gen 2)

The FEC (Gen 2) element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

FX

This element represents a Facility Explorer (FX) unit, which is used to directly monitor and control HVAC equipment.

Figure 250: FX

The FX element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

IU

This element represents an Interface Unit (IU), which converts a bus to wireless.

Figure 251: IU

The IU element has no runtime characteristics.

LDT

This element represents a local display terminal (LDT), which is a component that is placed inside the center of an MIG or an N30 body.

Figure 252: LDT

The LDT element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

MIG

This element represents a Metasys Integrator product that connects third-party devices to a Metasys Building Automation System (BAS).

Figure 253: MIG

The MIG element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

MIG (OId)
This element represents an older version of the Metasys Integrator product, which connects third-party devices to a Metasys BAS.

Figure 254: MIG (Old)

The MIG (Old) element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

N2R

This element represents an N2R bus, which is a local network that links controllers and point interfaces to the Network Automation Engine (NAE)/Network Control Engine (NCE).

Figure 255: N2R

The N2R element has no runtime characteristics.

N30

This element represents the N30 Supervisory Controller, which is designed for building management and system control in a wide variety of buildings.

Figure 256: N30

The N30 element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

NAE/NIE - 55 series

This element represents an NAE/Network Integration Engine (NIE), which enables IP connectivity and web-based access to a Metasys BAS. This engine is an NAE55 Series.

Figure 257: NAE/NIE - 55 series

The NAE/NIE - 55 series element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

NAE35/45/NCM45

This element represents an NAE/Network Communication Module (NCM), which enables IP connectivity and web-based access to a Metasys BAS. This engine is an NAE35 or NAE45 Series.

Figure 258: NAE35/45/NCM45

The NAE35/45/NCM45 element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

NCM

This element represents an NCM Supervisory Controller, which uses the Metasys N1 network to support the operation of a wide variety of building systems.

Figure 259: NCM

The NCM element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

NT

This element represents a Network Terminal (NT), which is a simple, portable, operator interface to the Metasys system. The NT provides data access from anywhere on the network, using passwords, data paths, and item names consistent with Metasys conventions. The NT functions as a dumb terminal to the system.

Figure 260: NT

The NT element has no runtime characteristics.

Server
This element represents a server-class computer, which is used to create a web connection to an automation system.

Figure 261: Server

The Server element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

TC (Terminal Controller)
This element represents a Terminal Controller (TC), which is an electronic device used for digital control of a piece of equipment.

Figure 262: TC (Terminal Controller)

The TC (Terminal Controller) element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

TEC

This element represents a Terminal Equipment Controller (TEC), which is a device that controls various pieces of equipment such as fan coil units and heat pumps. This device also controls zoning.

Figure 263: TEC

The TEC element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

UNT

This element represents a Unitary (UNT), which is an electronic device for digital control of packaged air handling units, unit ventilators, fan coils, heat pumps, and other terminal units serving a single zone or room. You can also configure the UNT as a generic input/output (I/O) device for basic point monitoring applications when used within a Metasys network.

Figure 264: UNT

The UNT element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

UPS
This element represents an uninterruptible power supply (UPS), which provides power to a controller or computer/server in the event of a power failure.

Figure 265: UPS

The UPS element has no runtime characteristics.

VMA1400

This element represents a VMA1400 Series configurable digital controller, which is used to control airflow in a VAV system.

Figure 266: VMA1400

The VMA1400 element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

VMA1600

This element represents a VMA1600 Series programmable digital controller, which is used to control airflow in a VAV system.

Figure 267: VMA1600

The VMA1600 element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

VND

This element represents a generic controller, not a Johnson Controls controller.

Figure 268: VND

The Vendor Device (VND) element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

XT/XTM

This element represents an Extension Module (XT) and an Expansion Module (XP), which provide additional input and output capacity within Metasys networks.

Figure 269: XT/XTM

The XT/XTM element has the following runtime characteristic: when the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Security

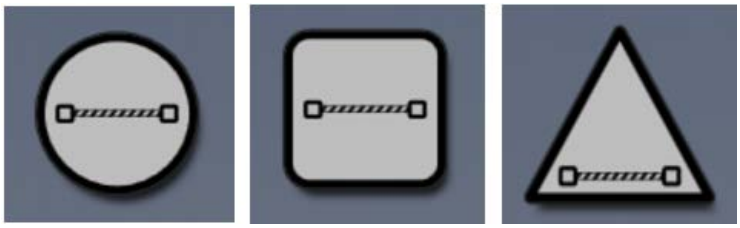
This Library category includes the following elements:

- *Barrier*
- *Barrier Alarm*
- *Barrier Contact*
- *Blind System Alarm*
- *Card Reader*
- *Computer*
- *Door Contact*
- *Elevator Alarm*
- *Emergency Call Disabled Toilet*
- *Intruder Alarm*
- *Overhead Door Contact*
- *Pegasys Controller*
- *Repair Switch*
- *Swipe Reader*
- *Turnstile*
- *Window Contact*

Barrier

This element (depicted in its three available shapes) represents a barrier.

Figure 270: Barrier



The Barrier element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Barrier Alarm

This element (depicted in its three available shapes) represents a barrier alarm.

Figure 271: Barrier Alarm

The Barrier Alarm element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Barrier Contact
This element (depicted in its three available shapes) represents a barrier contact.

Figure 272: Barrier Contact

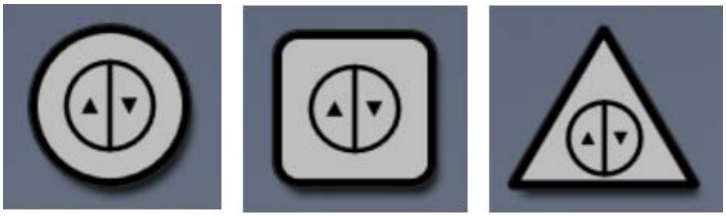
The Barrier Contact element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Blind System Alarm

This element (depicted in its three available shapes) represents a blind system alarm.

Figure 273: Blind System Alarm

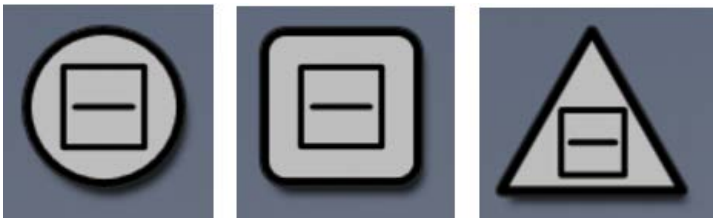


The Blind System Alarm element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Card Reader
This element (depicted in its three available shapes) represents a card reader.

Figure 274: Card Reader



The Card Reader element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Computer

This element (depicted in its three available shapes) represents a computer used in a security system.

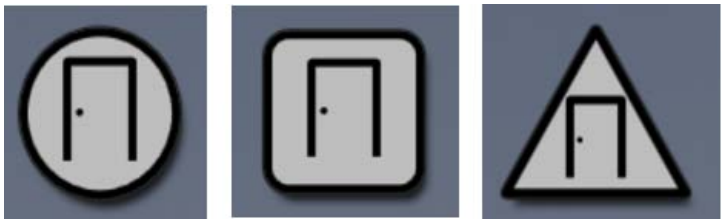
Figure 275: Computer

The Computer element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Door Contact
This element (depicted in its three available shapes) represents a door contact.

Figure 276: Door Contact



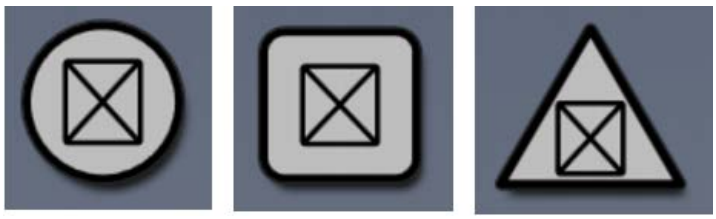
The Door Contact element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Elevator Alarm

This element (depicted in its three available shapes) represents an elevator alarm.

Figure 277: Elevator Alarm



The Elevator Alarm element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Emergency Call Disabled Toilet

This element (depicted in its three available shapes) represents an emergency call disabled toilet alarm.

Figure 278: Emergency Call Disabled Toilet

The Emergency Call Disabled Toilet element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Intruder Alarm

This element (depicted in its three available shapes) represents an intruder alarm, which sends an alarm when the presence of an intruder is detected.

Figure 279: Intruder Alarm

The Intruder Alarm element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Overhead Door Contact
This element (depicted in its three available shapes) represents an overhead door contact.

Figure 280: Overhead Door Contact

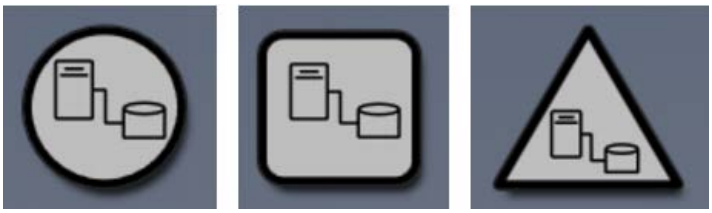
The Overhead Door Contact element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Pegasys Controller

This element (depicted in its three available shapes) represents a Pegasys® controller, which allows you to manage all the electronic security devices throughout an organization from a single location.

Figure 281: Pegasys Controller



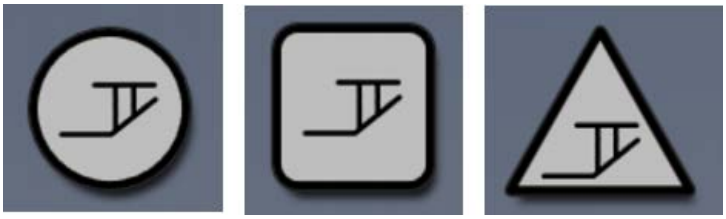
The Pegasys Controller element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Repair Switch

This element (depicted in its three available shapes) represents a repair switch, which allows a maintenance person to indicate when equipment is being maintained.

Figure 282: Repair Switch



The Repair Switch element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Swipe Reader
This element (depicted in its three available shapes) represents a swipe reader.

Figure 283: Swipe Reader

The Swipe Reader element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Turnstile

This element (depicted in its three available shapes) represents a turnstile, which counts the number of people who have entered a space.

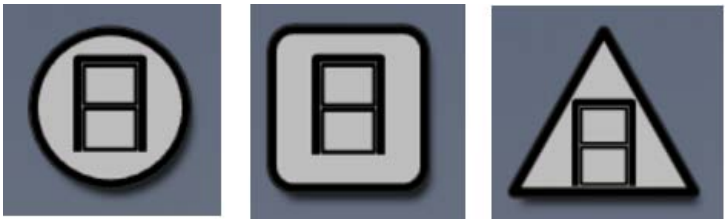
Figure 284: Turnstile

The Turnstile element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Window Contact
This element (depicted in its three available shapes) represents a window contact.

Figure 285: Window Contact



The Window Contact element has the following runtime characteristics:

- The element appears in the shape set in the Shape property.
- The background color of the element is set based on the status of the Value binding, along with the corresponding status color defined in Metasys system preferences for the Site.
- The color of the icon inside the element is always visible regardless of the current background color being displayed.
- When you place your cursor over the element, a tooltip shows the current status of the bound item.

Terminal Units

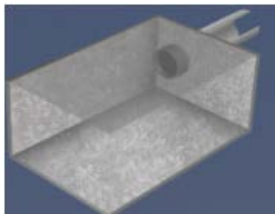
This Library category includes the following elements:

- *Exhaust Box*
- *Fin Tube*
- *Room Control Module*
- *VAV Device*

Exhaust Box

This element represents an exhaust box, which controls airflow entering or leaving a space by the use of a damper.

Figure 286: Exhaust Box



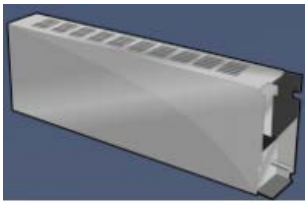
The Exhaust Box element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- When the value of the Damper binding within the Exhaust Box Primary binding group is:
  - **Closed** - the plate is closed.
  - **25% Open** - the plate is one quarter open.
  - **50% Open** - the plate is half open.
  - **75% Open** - the plate is three quarters open.
  - **100% Open** - the plate is completely open.

Fin Tube

This element represents a fin tube, which is a baseboard heating unit that circulates hot water to add supplementary heat to zones in a building.

Figure 287: Fin Tube



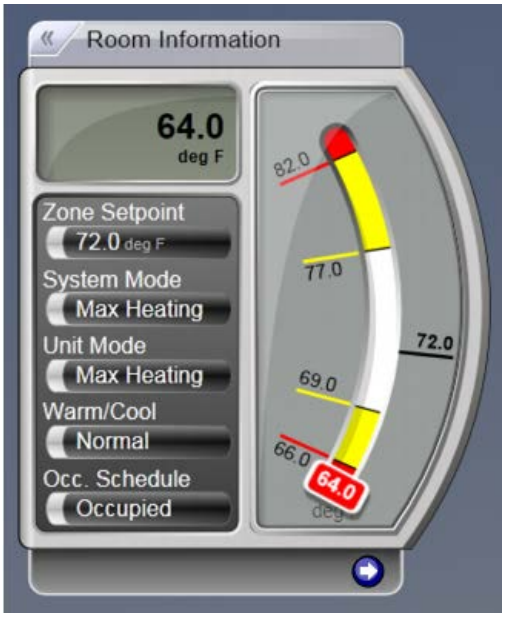
The Fin Tube element has the following runtime characteristics:

- When the element is bound to a Metasys item, the attached Advanced Value Box displays all of its functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.

Room Control Module

This element, intended for use with Terminal Unit graphics, displays up to five items of interest (such as room occupancy and setpoint information) for any bound Metasys object. This Room Control Module is different from the Room Control Module (Multiple Rooms) in that it only displays the information for a single room (for example, it does not dynamically update based on a selected room within a floor).

Figure 288: Room Control Module



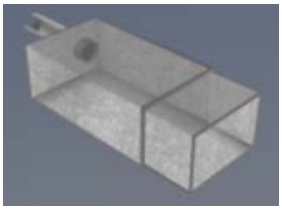
The Room Control Module element has the following runtime characteristics:

- It displays up to five Key Data Items. For information about the runtime characteristics of the key data items within the Room Control Module, see *Key Data Item*.
- It can be collapsed or expanded, but it cannot be resized.
- It can be moved to another location on the graphic.
- It displays the measurement units (for example, degrees Fahrenheit) for all displayed values.
- It contains a semicircular gauge that displays the following information for the bound Metasys item (if configured and available): high and low alarm limits, cooling setpoint, heating setpoint, high and low warning limits, and common setpoint.
- It contains an LCD that displays the current value for the object bound to the Primary Value. Right-click the LCD to open the User Actions Panel for the Metasys item.
- When you place your cursor over one of the components of the Room Control Module, a tooltip displays the information for that component.
- It displays a navigation icon (a right-pointing arrow in the lower-right corner of the module) when the selected Room Status element is configured with a navigation binding. Clicking that navigation icon takes you to the Metasys item, URL, or application that was configured for that Room Status. The Ready Access Portal does not support navigation to an application.
- It displays a warning icon with a message if the specified alarm is not configured or could not be found. The messages are:
  - `Alarm limits are unavailable. No Alarm information is configured.`
  - `Alarm limits are unavailable. Configured item could not be located. <alarm object name>`
- It displays a warning icon with a message if the Metasys item has misconfigured alarms or alarm limits. For example: `Alarm extension is not configured correctly. The High Warning limit is greater than or equal to the High Alarm limit.`

VAV Device

This element represents a variable air volume device, which controls airflow into a space using fans, and heats or cools the air using electric or water coils. Sensors monitor the supply and discharge air temperatures.

Figure 289: VAV Device



The VAV Device element has the following runtime characteristics:

- When the element is bound to three Metasys items (damper, flow, and flow setpoint), the two attached Advanced Value Boxes display all of their functionality. For information about Advanced Value Box functionality, see *Advanced Value Box*.
- The VAV Device element displays a discharge air sensor or supply air sensor if these sensors are configured to display.

The Damper Output binding has the following runtime characteristics:

- When the value of the Damper Output binding within the VAV Damper Primary binding group is:
  - **Closed** - the damper is closed.
  - **25% Open** - the damper is one quarter open.
  - **50% Open** - the damper is half open.
  - **75% Open** - the damper is three quarters open.
  - **100% Open** - the damper is completely open.

The Water Coil binding has the following runtime characteristics:

- When the value of the Coil Output binding within the Water Coil binding group is:
  - **Closed** - none of the coils are animated.
  - **20% Open** - one quarter of the coils are animated.
  - **50% Open** - half of the coils are animated.
  - **70% Open** - three quarters of the coils are animated.
  - **100% Open** - all coils are animated.
- The Coil Mode binding within the Water Coil group supports two animations: heat and cool. If the coil is used for heating, the animated pipes inside the coil appear bright red, while the non-animated pipes appear dark red. If the coil is used for cooling, the animated pipes inside the coil appear bright blue, while the non-animated pipes appear dark blue.

The Supply Fan Status binding has the following runtime characteristics:

- When the value of the Supply Fan Status binding is:
  - **Off** - the fan blades do not spin.
  - **On** - the fan blades spin.
- The color of the fan blades reflects the current value of the Supply Fan Status item (for example, stopped or running) as defined by the Fan Status section within Metasys system preferences. By default, green indicates a running fan and red a stopped fan. However, if the status of the item is non-normal (for example, offline), the color of the fan blades reflects the status of the item as defined by the Status Colors section within Metasys system preferences. In other words, the status color for a not normal item supersedes the fan status color.

The Electric Coil binding has the following runtime characteristics. For each of the three electric heating coils, when the value of the Value binding is:

- **Off** - the heating coil appears dark gray.
- **On** - the heating coil appears red/orange.

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